

Evaluation of Eureka Math in Montgomery County Public Schools: Alignment with RFP 4478.1 Criteria and Needs of Students

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Shared Accountability

Applied Research and Evaluation

EUREKA MATH[®]





	Executive Summary.....	1
	Introduction.....	3
	Program Description.....	4
	Evaluation Scope.....	5
	Methods.....	6
	Results	9
	Conclusion.....	38
	Recommendations.....	40



Background & Study Purpose

The curriculum materials used in Montgomery County Public Schools (MCPS) undergo a comprehensive review every five years, as per Board of Education (BOE) Policy IKA (MCPS, 2024a). Following a curriculum audit by Johns Hopkins University in 2017, which recommended a shift to externally sourced, research-based materials, MCPS issued RFP Number 4478.1 in 2018 to acquire a curriculum for Pre-K–8 classrooms in mathematics and English language arts (ELA). In the RFP, rigorous, standards-based instruction, inclusivity, cultural responsiveness, effective assessment tools, tailored support for diverse learners, enrichment opportunities, parent resources, and teacher digital tools were emphasized. MCPS started using the Eureka Math curriculum for Pre-K–5 in 42 elementary schools in 2019–2020 and as a result of the COVID-19 pandemic, the remaining 95 schools began implementing in 2020–2021, accelerating the rollout. The purpose of this evaluation was to assess how well Eureka Math curriculum aligns with the criteria specified in the RFP Number 4478.1 and meets the needs of students and teachers in MCPS.

Methodology

A multi-method approach was utilized in this study. In the spring of 2024, surveys were sent out to a random selection of 1,105 classroom teachers and 662 math instructional leaders. Instructional leaders included staff development teachers (SDTs), math representatives, English Language Development (ELD) teachers, special education teachers, and instructional leaders from the central office. The response rates were 34% for teachers (n=373) and 55% for instructional leaders (n=369). The responses from teachers were well-balanced across Kindergarten to Grade 5, while 84% of SDTs, 89% of central office staff, 37% of ELD teachers, and 50% of special education teachers in the sample participated in the survey. Additionally, Maryland Comprehensive Assessment Program (MCAP) mathematics and Measures of Academic Performance in Mathematics (MAP-M) assessment scores were used to analyze the trends in math performance across 42 schools (cohort 1) that have implemented Eureka Math since its inception.

Key Findings:

Staff Survey

In preparation for and to support ongoing implementation of Eureka Math, survey participants participated in various professional learning opportunities (PLOs), with varying levels of involvement. Most teachers and instructional leaders reported they attended PLOs on "Major Work of the Grade" and "Launch/Focus on Fluency." About half of the teachers and a majority of instructional leaders reported the "Pre-Launch" session, while nearly half of both groups participated in "Preparation for Customization." Among PLOs designed for leaders, the majority of instructional leaders also reported attending PLOs about, "Hone the Concept Development", "Equip Rollout" and "Read-Write-Draw" sessions. During the 2023–2024 school year, the majority (67% of teachers and 54% of instructional leaders) reported receiving 10 or fewer hours of PLOs related to math instruction between summer 2023 and April 2024 when they took the survey. A quarter of both groups reported 10 to 25 hours, with the remaining small segment exceeding 25 hours. The majority of teachers (58%) and instructional leaders (63%) reported that the PLOs for Eureka Math were adequate or more than adequate. Despite this, only 44% of teachers felt adequately or very well prepared to implement Maryland's standards-based math instruction, which includes not only the use of Eureka Math but also comprehensive math instruction—compared with 66% of instructional leaders, who felt either adequately or very well prepared.

Key Findings:

Staff Survey

As expected, teachers reported that they used Eureka Math in nearly all of their instructional time (89%), supplementing it with additional resources—either alongside Eureka or independently—during approximately 22% of their instruction. When teachers incorporated non-Eureka Math materials, nearly half of those who did, indicated they used them consistently or frequently for students who required enrichment or acceleration.

Staff feedback showed a strong agreement that Eureka Math curriculum aligns with the Common Core State Standards (CCSS), is free from biases and stereotypes, and is based on research-driven strategies. Nearly all respondents, including 91% of teachers and instructional leaders, confirmed that Eureka Math is aligned with the CCSS. A vast majority of teachers (86%) and instructional leaders (82%) agreed that Eureka Math is well-structured (83%, 75%), aligns with instructional pacing (81%, 74%), promotes mastery of grade-level standards (77%, 79%) and incorporates evidence-based principles and strategies (64%, 79%). However, regarding other aspects, staff feedback indicated that Eureka Math does not adequately support a wide range of learning needs among MCPS students or offer flexibility in instruction. One half or fewer (40–50%), of respondents noted that Eureka Math incorporates explicit instruction in daily lessons for English learners; allows teachers the flexibility to modify instruction as needed or provides tiered interventions for struggling students. Furthermore, half or fewer of the teachers and instructional leaders invited to complete the staff survey reported that Eureka Math sufficiently meets the needs of students performing below grade level (36%; 31%), those with Individualized Educational Programs (IEPs) (36%; 32%), or Emergent Multilingual Learners (EMLs) (40%; 39%).

On a scale from 1 to 10, staff ratings for the overall quality of Eureka Math varied across different attributes. Both teachers and instructional leaders assigned high ratings (above 7) to attributes such as "Free from stereotypes and bias," "Preparing students for next grade level standards," "Offering opportunities for developing math fluency," and "Rooted in effective math instruction methods." Moderate ratings (between 5 and 7) were given to aspects like "Tools for documenting progress," "Enriched learning in mathematics," "Addressing needs of different learning levels," "Accessibility for multilingual learners," and "Readability." Instructional leaders rated Eureka Math low (below 5) for criteria related to meeting a diverse range of learning needs, accessibility for EMLs, and readability. Through comments, staff further elaborated on challenges related to readability, supports for students with learning gaps, and a need for more engaging enrichment activities.

Approximately three-fifths of teachers (68%) and instructional leaders (62%) who participated in the survey indicated they would select Eureka Math for the MCPS Pre-K to 5 curriculum if given the option. Those against choosing Eureka Math rated it poorly on many criteria outlined in the RFP (less than 5 out of 10) for nine out of the 17 curriculum features addressed in the survey. Both groups of teachers and instructional leaders assigned particularly low scores (below 3/10) in areas such as accommodating diverse learning needs (teachers, 2.6; instructional leaders, 2.8), accessibility for English learners (2.2 for teachers; 2.1 for instructional leaders), and readability (2.6 for teachers; 2.1 for for instructional leaders). Other aspects that received low ratings included fostering a positive math identity, ease of identifying students requiring additional support, and delivering enriched learning experiences in mathematics.

Trends in performance 2019 to 2023

Performance on State Assessments. In 2022, 56% of students in Grade 3 in cohort 1 schools achieved proficiency on the MCAP tests. As of 2023, 59% of students in Grade 3 scored proficient on MCAP. The percentage of students proficient in Grade 4 increased from 43% in 2022 to 49% in 2023. Students in Grade 5 achieved proficiency at a rate of 46% in 2022 and 45% in 2023. For both years, MCAP proficiency rates varied noticeably by race/ethnicity and for students receiving special services. Across students in Grades 3 to 5, students identified as Asian, White, and Two or More Races demonstrated proficiency rates that were 2 to 3 times higher than those of students identified as Black or African American and Hispanic/Latino. Similarly, in both years, students not receiving services such as English Language Development (ELD), Free and Reduced-price Meals System (FARMS), or special education consistently achieved proficiency rates 2 to 3 times higher than their peers who received these services.

Trends in MAP-M Performance. All student groups in Grades 3, 4, and 5 in cohort 1 schools improved on MAP-M spring performance between 2021 and 2024. However, performance varied greatly according to race/ethnicity and whether they received services. Students identified as Asian, White, and Two or More Races consistently performed at the 50th percentile (a threshold considered proxy for performance being on grade-level) on spring MAP-M at rates 2 to 3 times higher than their grade-level peers identified as Black or African American and Hispanic/Latino. Additionally, students who did not receive FARMS, ELD, or special education services performed at the 50th percentile on spring MAP-M at rates up to three times higher than grade-level peers who received these services.

Conclusions

In this study, it was found that while the Eureka Math curriculum was reported to be rigorous, coherent, and standards-aligned, it does not include the explicit supports and resources for students with disabilities, EMLs, or advanced learners to the extent specified in the RFP. Specifically, shortcomings in 5 of 7 criteria were reported: It does not provide sufficient enrichment and acceleration opportunities or facilitate teachers to differentiate instruction effectively for a wide range of student needs. Staff feedback also conveyed that assessment tools were not useful in measuring student success in a way that supported instructional planning.

Despite the overall improvements in mathematics performance since adopting Eureka Math, variations in student achievement based on race/ethnic groups and services receipt persisted. This challenge was one that MCPS sought to address through the implementation of the Eureka Math curriculum. Not only were these trends evident in Cohort 1 schools, but also throughout MCPS during the past four years (MDReportCard.org; MCPS, 2024c). Based on these patterns in performance, one can infer that the limitations of the core curriculum contributed to inequitable learning experiences which manifested in majority of students in some student group not attaining proficiency or meeting state target performance. The launch of the new curriculum, *Eureka Math*², which is "specifically designed to ensure accessibility for all students," aligns with the findings and feedback collected from teachers and staff involved in this study. This development signals the vendor's acknowledgment that the Eureka Math curriculum does not adequately meet the diverse needs of every student. To guarantee that all students have the chance to learn and succeed, it is essential for future vendors to demonstrate how their math curriculum can effectively facilitate the learning of all students.



Introduction

The curriculum materials used in MCPS undergo a comprehensive review every five years in accordance with Board of Education Policy IKA, Curriculum (MCPS, 2024a). Following a thorough curriculum audit by Johns Hopkins University in 2017, which recommended a shift from MCPS's Curriculum 2.0 to externally sourced materials known for their strong research foundation and effectiveness, MCPS issued the Request for Proposal (RFP) Number 4478.1 in 2018. The goal was to acquire "current, research-based, relevant, and appropriate materials" to enhance teaching and learning in Pre-K–8 settings. The RFP specified the following criteria for the new curriculum:

- Facilitates rigorous standards-based instruction
- Content that uses the latest/most effective principles/Evidence-based practices (EBP) – Strategies/practices proven effective through research
- Promotes inclusivity and cultural responsiveness without bias or stereotypes
- Tools for assessing and documenting student progress effectively
- Provides tailored support for English Language Learners, students with disabilities, advanced learners, and those needing academic intervention
- Offers enrichment and acceleration opportunities
- Provides clear resources for parents and guardians
- Enables teachers to tailor instruction using digital tools and formative assessments for prompt student support

On January 8, 2019, the Board approved the Eureka Math curriculum from Great Minds, LLC for prekindergarten through Grade 5. The initial rollout plan involved three cohorts, starting with 42 schools (Cohort 1) in 2019. However, due to the pandemic, the implementation was adjusted to two cohorts, with the remaining 95 schools adopting the curriculum in the 2020–2021 academic year. To support the transition to Eureka Math, professional development and resources were provided to all instructional staff and math leaders.

The evaluation, in alignment with Board Policy IKA, focused on two main objectives: 1) Alignment with RFP Number 4478.1 Requirement: Assessing how well the Eureka Math curriculum and its associated resources used in MCPS meet the criteria specified in Request for Proposal (RFP) Number 4478.1 and 2) Fidelity in Math Block Implementation: Evaluating the degree to which the Eureka Math lessons are implemented as designed in the curriculum across Pre-K to Grade 5.

This report provides details about the Eureka Math Pre-K to 5 curriculum and resources and staff feedback on how they align with the requirements specified in RFP Number 4478.1 and needs of MCPS students. Another report will be issued later, focusing on the implementation of the math block in a sample of classrooms.



Program Description

The vision of the MCPS mathematics program is to cultivate mathematical thinkers among all students, ensuring they achieve success in rigorous, grade-level mathematics (MCPS, 2024b). The elementary mathematics curriculum is designed to facilitate this growth by progressing from concrete to abstract concepts, fostering essential understanding and fluency in mathematics while simultaneously enhancing mathematical language. At the core of this approach is the Eureka Math curriculum, which is expected to provide a coherent, aligned, and focused instructional framework. Eureka Math lessons emphasize fluency practice, concept exploration, and problem-solving strategies at all grade levels, thereby reinforcing and retaining key mathematical concepts each year (Great Minds, 2024).

Program Goals



Each elementary student, from Pre-K through Grade 5, is expected to achieve mathematical proficiency as outlined in the Maryland College and Career Ready standards Maryland Common Core State Standard (CCSR) (MCPS, 2024b).

Program Components



For Teachers

- A prekindergarten to Grade 5 **Teacher Edition** for each module topic covered in a school year includes all lessons and teacher support items.
- Pre-Module diagnostic, formative, and summative assessments provide teachers information about student learning and progress.
- **Eureka Math in Sync**® offers video lessons and assignments for continuous learning so students can build knowledge if they—or the teacher—have to take time away from class.
- **Eureka Math Digital Suite** provides an interactive digital version of the curriculum as well as the Teach Eureka video series that includes more than 18 hours of professional development videos that help educators prepare to teach with Eureka Math.
- **Family Math Night Resources** provide teachers with ready-made tools to share with families.



For Students

- **Learn, Practice, and Succeed books** for each Eureka Math module.
- **Hands-on Math Manipulatives** provide students with kinesthetic learning opportunities.
- **Family Resources** for caregivers who want to support student learning outside of the classroom.



Evaluation Scope

The evaluation focused on two key areas:

1. Evaluating the alignment of Eureka Math curriculum and resources used in MCPS resources with RFP 4478.1.
2. Analyzing trends in mathematics performance throughout the years of implementation of Eureka Math (2019 to 2023) in cohort 1 schools.

Purpose of Evaluation



Assess the perception of adequacy of Eureka mathematics curriculum resources for Pre-K–5 students in meeting the needs of all learners in MCPS.



Examine trends in Grades 3–5 mathematics performance on state and district assessments between 2021 and 2024 for students in the 42 cohort 1 schools.

Evaluation Questions

1

What were teachers' experiences with the professional learning opportunities related to the implementation of with Eureka Math?

2

What were the perceptions and experiences of classroom teachers and instructional leaders with the Eureka Math curriculum for grades Pre-K–5 students?

3

To what extent did mathematics performance for students in Grades 3–5 meet grade-level targets from 2021 to 2024? What variations exist among student groups?



To address questions 1 and 2, Pre-K to 5 teachers and math instructional leaders* were invited to complete a staff survey.

Implementation



Stakeholder Surveys

A survey was distributed to classroom teachers and instructional leaders* in spring 2024 to gather feedback on:

- 1) the content and attributes of the Eureka Math curriculum for students in Pre-K–5 as specified in the RFP, and
- 2) professional learning related to implementation of Eureka Math:
 - Perceptions and experiences with the Eureka Math curriculum, included:
 - Facilitating rigorous standard-based instruction.
 - Providing rich and engaging materials.
 - Meeting the needs of diverse learners, such as those in English language development (ELD) services, students with disabilities, advanced learners, and struggling students.
 - Promoting inclusivity and cultural responsiveness without bias or stereotypes in curriculum materials.
 - Assessing and documenting student progress effectively.
 - Staff feedback on the professional development opportunities connected to implementation of Eureka Math.

Note. Instructional leaders* included staff development teachers, math representatives, ELD teachers, special education teachers, and central office personnel.

The surveys were designed to gather comprehensive feedback and insights about Eureka Math and the elementary mathematics program from staff using it in a variety of roles and settings.



Sample(s)

The target samples consisted of 1) a random selection of 30% of Pre-K–5 teachers (N=1,105); 2) staff development teachers (SDT) or math representatives in each school (N=148), 3) sample of 240 ELD teachers and 240 special education teachers, and 4) central office staff members who assist the elementary mathematics program (N=34).

Sample	Target	Responses	Response rate
Classroom Teachers	1,105	373	33.3%
Math Representatives (Reps)/SDTs	148	124	83.8%
Special education teachers	240	122	50.1%
ELD teachers	240	89	37.1%
Central office staff	34	31	88.6%

Implementation



Analysis Procedures

The target samples consisted of 1) a random selection of 30% of Pre-K–5 teachers (N=1,105); 2) staff development teachers (SDT) or math representatives in each school (N=148), 3) sample of 240 ELD teachers and 240 special education teachers, and 4) central office staff members who assist the elementary mathematics program (N=34).

Closed-ended survey items were analyzed using descriptive statistics. For one question, participants rated various attributes of the Eureka Math curriculum, as specified in the RFP, on a scale from 1 (poor quality) to 10 (excellent). The average rating for each attribute was calculated and grouped into three categories: high (7–10), indicating high quality; moderate (5–6.9), reflecting adequate or expected quality; and low (below 5), suggesting the attribute did not meet teachers' expectations.

The analysis also examined differences in ratings of the features of the Eureka Math curriculum between participants who supported the continuation of the Eureka Math curriculum and those who opposed it, looking for emerging patterns in their ratings of curriculum features. Additionally, open-ended responses were reviewed, summarized, and organized by themes. Only those themes supported by 10 or more responses were reported.

To answer question 3, district and state assessment scores were used to analyze trends in mathematics performance in 42 schools (cohort 1) that have implemented Eureka Math since its launch in 2019.

Outcomes: Trends in Math Performance



Measures

Maryland Comprehensive Assessment Program (MCAP) Mathematics. For each grade level or course, the MCAP mathematics assessments cover the content outlined in the Maryland College and Career Ready Standards. Students in grades 3 through 8 take the MCAP in the spring. In mathematics, students are expected to solve real-world problems, understand quantities and their relationships, and reason mathematically (MSDE, 2024). The MCAP scores range between 650 and 850 and are aligned with four performance levels: beginning (650–724), developing (725–749), proficient (750–789), and distinguished (790–850). The report included 1) average MCAP scores and 2) the percentage of students who achieved proficient and distinguished on the MCAP in 2022 and 2023.

Measures of Academic Performance in Mathematics (MAP-M). MAP-M measures performance in five areas of mathematics: number process, statistics, algebra, geometry, and measurement. Students take the MAP-M in the fall, winter, and spring. MAP-M generates RIT scales in the range of 100 to 300. The trends in 1) average RIT scores by grade and 2) the percentage of students achieving the 50th national percentile, indicative of the median MAP-M RIT scores, was analyzed and utilized as a proxy for grade-level proficiency.

This threshold was applied in this study as a secondary measure to complement the MCAP (concurrent validity), given the established correlation between the two assessments (Wang, 2023). The goal was to observe how similar the trends would be, using both measures. Student demographic characteristics. Student information to identify student groups (i.e., race/ethnicity, receipt of special services--FARMS, ELD, and special education) was compiled from official MCPS enrollment records.



Sample(s)

Examining Performance Trends of MAP-M from 2019 to 2023. The analytical sample comprised students in grades 3 to 5 from Cohort 1 schools during the years 2019 to 2023. Students who transitioned to middle school before Spring 2023, as well as those with less than three years of attendance in Cohort 1 schools, were excluded to maintain a focus on elementary education. To achieve this, the methodology utilized the most recent data available for students in elementary grades 3 to 5 from 2023 and 2024.

For MCAP assessments 2022–2023, students in Grades 3 to 5 from cohort 1 schools who had MCAP data available from either 2022 or 2023 were included in the analysis.

To answer question 3, district and state assessment scores were used to analyze trends in mathematics performance in 42 schools (cohort 1) that have implemented Eureka Math since its launch in 2019.

Trends in Math Performance



Analysis Procedures

For question 3, data was analyzed by school year, and summary statistics were calculated for:

Grades 3–5 MCAP mathematics performance (2022 to 2024):

- 1) Number and percentage of Students in Grades 3–5 who achieved proficient or distinguished learner levels on the MCAP mathematics, and
- 2) Average MCAP scores by grade and year.

MAP-M mathematics performance (2019–2024): 1) Number and percentage of Students in Grades 3–5 achieving the 50th percentile on spring MAP-M and 2) Average MAP-M scores by grade. Whenever there were at least 50 students, analyses were disaggregated by student groups within grade: race/ethnicity and students receiving special education, FARMS, and ELD services.

Note-Limitations to Establishing True Baseline for Students' Performance Levels Before and After Implementation of the Eureka Math Curriculum. The data from Spring 2019, provided on page 27, serve as a reference point for student performance before MCPS adopted Eureka Math, which coincidentally marks the onset of the COVID-19 pandemic. Student performance declined during and immediately after the pandemic, followed by a gradual recovery. However, this recovery has made it difficult to establish a clear baseline for correlating performance trends with the Eureka Math curriculum. A true baseline requires isolating variables, but in this case, multiple factors—including introducing a new curriculum and pandemic-related disruptions—have impacted student achievement.

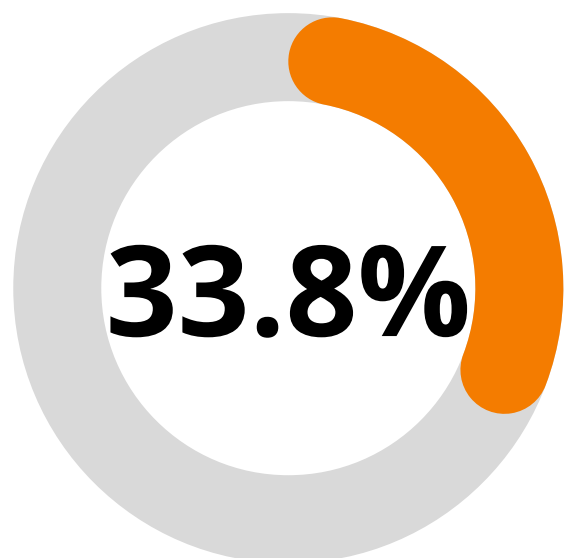
It also is important to consider how the curriculum shift and the pandemic have contributed to performance variations across student groups within the same grade and year.

Interpreting the trends in student performance observed during and after the introduction of Eureka Math requires caution and context. Any drop in performance in 2020 and 2021 cannot be directly attributed solely to the implementation of Eureka Math, as the pandemic caused widespread disruptions to learning and instruction across all subject areas.

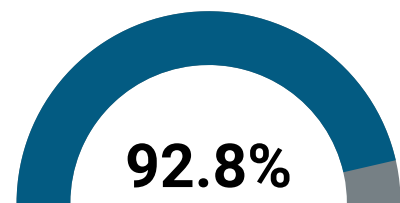


Results: Background Information

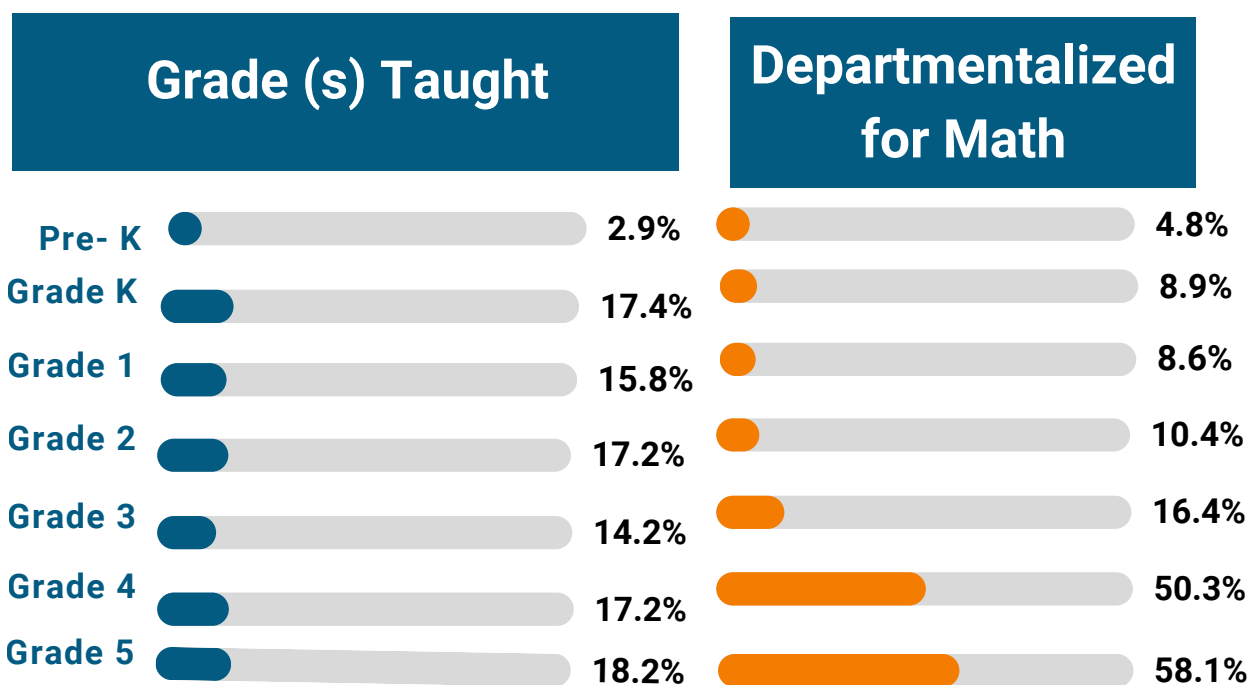
Summary of Characteristics of Respondents: Teacher Survey



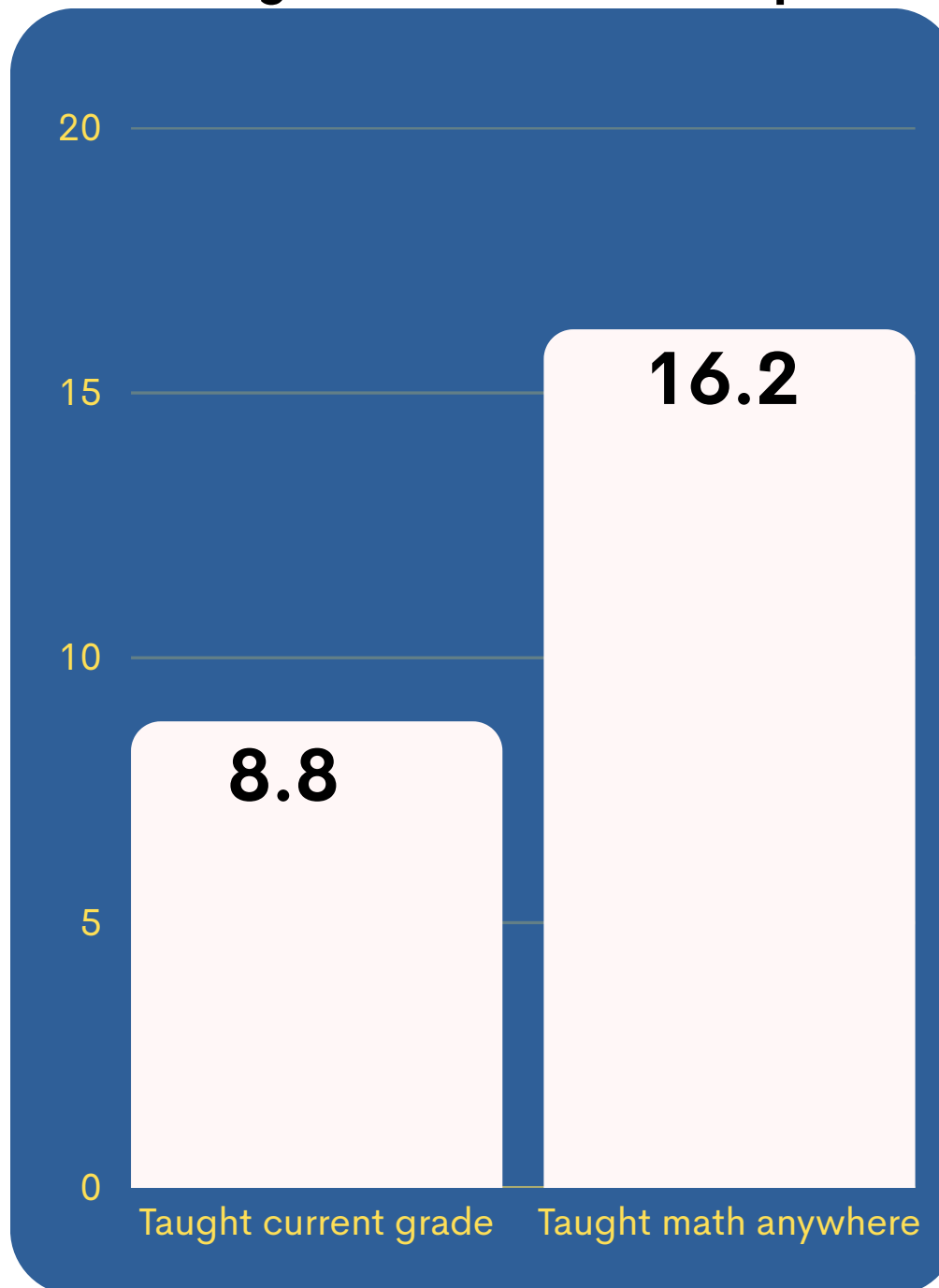
Response rate of sample of teachers (N=1,105)



Had used Eureka Math previous year (2022-2023)



* Average Years Professional Experience



Findings

Out of a sample of 1,105 Pre-K–5 teachers invited to complete a survey, 373 (34%) provided responses. Aside from the Pre-K teachers, who comprised only 3%, the responses were fairly evenly distributed among grades, with 14% from Grade 3 and 18% from Grade 5. Kindergarten, Grade 2, and Grade 4 each accounted for approximately 17% of the respondents.

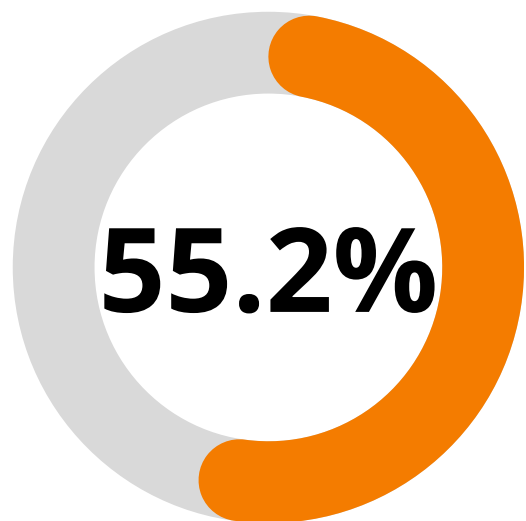
- The respondents reported an average of 8.8 years teaching math at their current grade level and an overall average of 16.2 years teaching math, both within and outside of MCPS.
- Almost all respondents (93%) indicated that they had used Eureka Math in the previous academic year (2022–2023), suggesting a high level of familiarity with the program. The 6% who stated they had not utilized Eureka Math likely included teachers who are either new to MCPS or new to teaching.

Respondents who taught Grades 4 and 5 were more likely than others to report their school departmentalized math instruction (50% and 58%, respectively). Fewer than one fifth of respondents reported departmentalization in math in Pre-K–3 (5% in Pre-K to 16% in Grade 3). Notably, 30% of teachers reported no departmentalization for math at any grade level at their school.



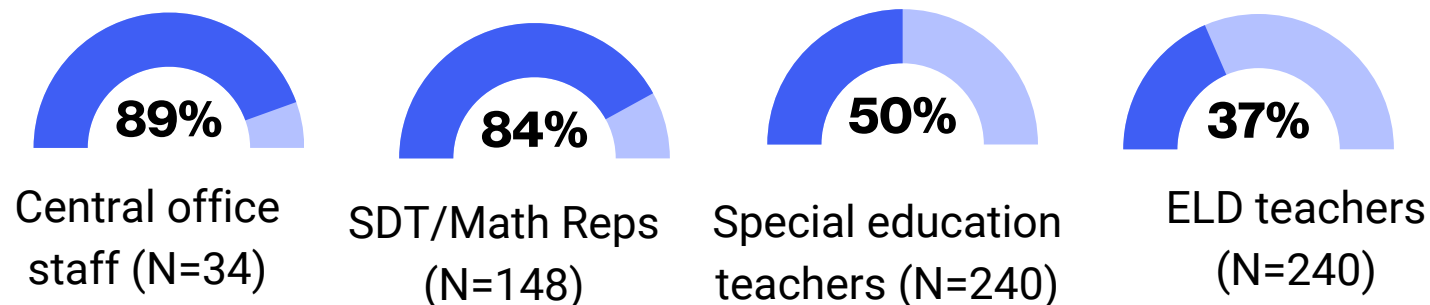
Results: Background Information

Characteristics of Respondents: Instructional Leader Survey



Response rate of instructional leaders (N=663)

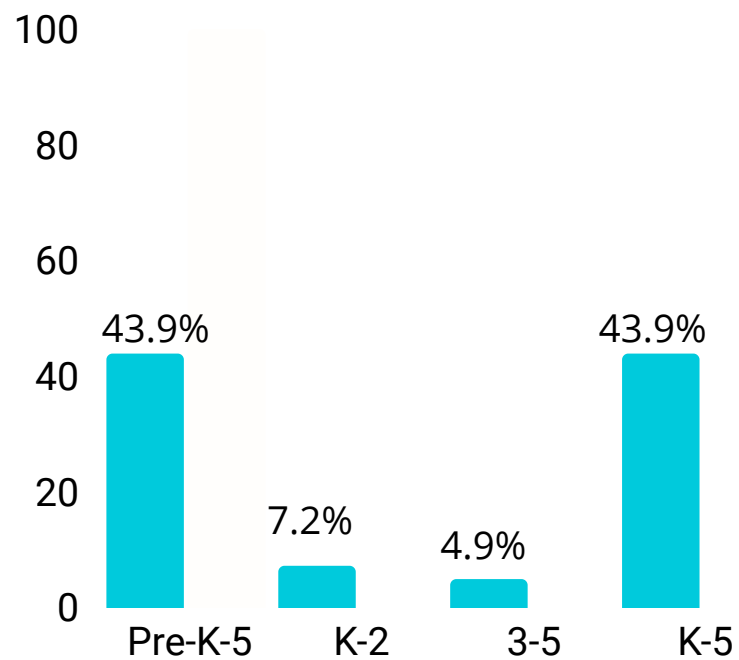
* Response Rate by Role/Sample



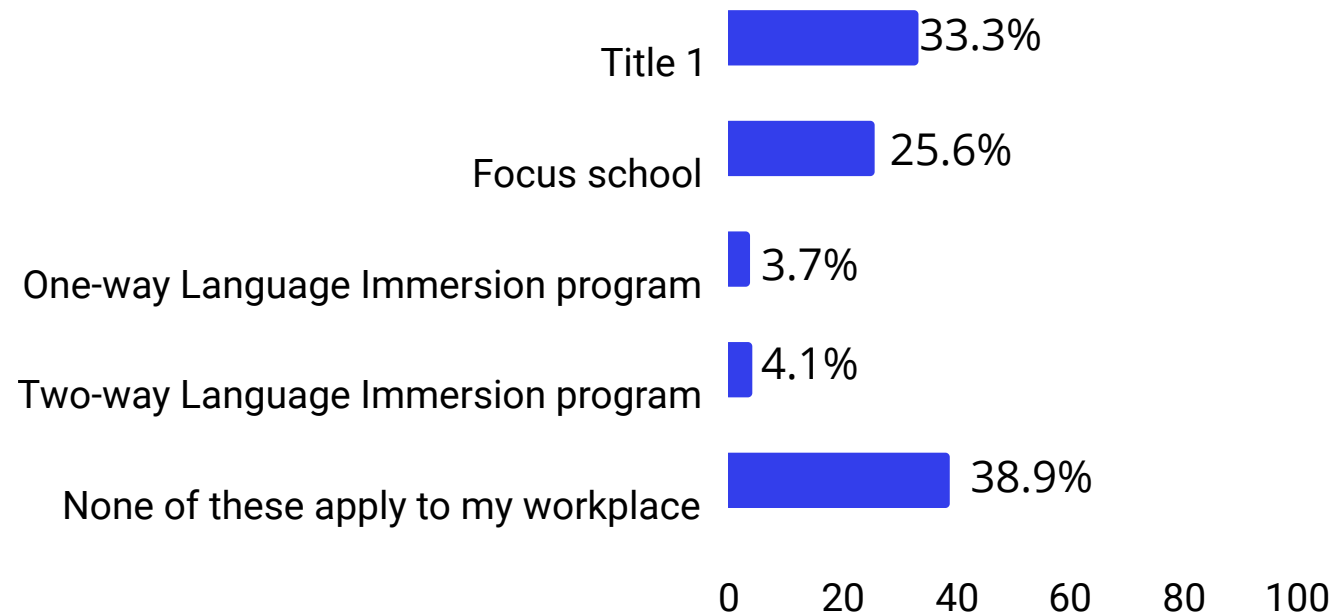
* Professional experience

Years	Average	Median
Current role	6.9	5.0
Supporting math instruction	16.2	15.5

* School Setting



* Category of Schools



Findings

Out of 663 instructional leaders invited to complete the staff survey, 369 (55%) responded. The survey response rates varied among different roles, with the highest response among central office staff (89%) and lowest among ELD teachers (37%).

The school-based respondents reported they worked in various school settings, reflecting that 44% worked in Pre-K-5 schools, with an equal percentage in K-5 schools. K-2 schools represented 7%, while 3-5 schools accounted for 5%. Notably, 32% of respondents (not based in central office) did not specify the category of their worksite.

Respondents with school-based roles (excluding those who identified central office as their worksite), 33% described their work setting as Title I schools, and 26% as Focus schools. The percentage of respondents from one-way and two-way language immersion programs was 4%, respectively. More than one third (39%) indicated that their school did not fall into any of these categories.

The survey results showed that instructional leaders have been in their current positions for an average of 6.9 years and a median (more than half) of 5 years. They have taught or supported mathematics for an average of 16.2 years and a median of 15.5 years, both within and outside MCPS. Accordingly, as intended, the respondents represent a variety of staff roles and school settings.



Results: Staff Surveys

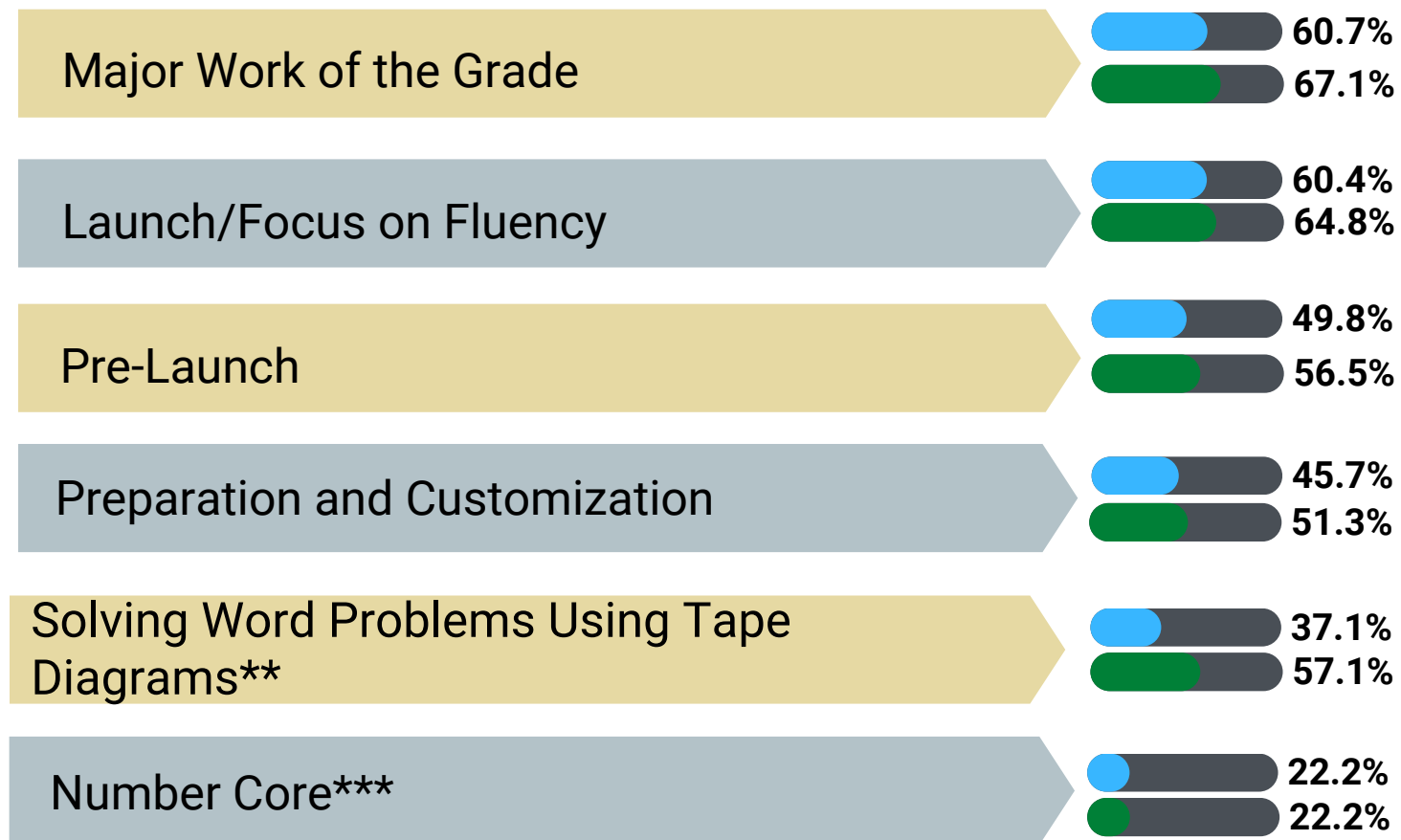
Classroom teachers



Instructional leaders



Percentage Reported Attending Specified PLOs* for Teachers and Instructional Leaders



Designed for Grades 2 to 5 teachers: Participation levels among survey respondents for **Solving Word Problems were reported as 20% for Grade 1, 35% for Grade 2, 52% for Grade 3, 57% for Grade 4, and 58% for Grade 5 for teachers who taught these grades.

***Designed for Pre-K to Grade 1 teachers: Participation levels for **Number Core** were reported by grade-taught were: 14% for Pre-K, 41% for Kindergarten, and 26% for Grade 1.



Findings

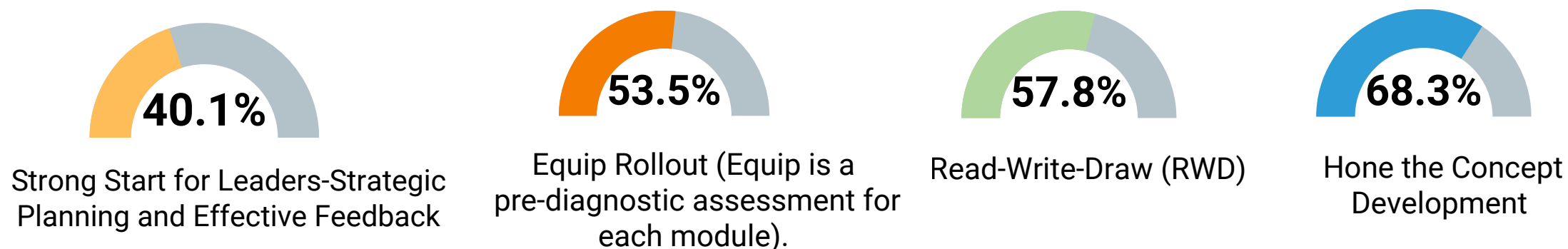
In conjunction with Eureka Math's roll-out in 2019, the elementary math program continued to offer a variety of PLOs* to assist in its implementation (in addition to other PLOs to support elementary math in general). Some are designed for classroom teachers and instructional leaders, while others are for instructional leaders. The majority of teachers and instructional leaders who responded to the survey reported attending PLOs on the "Major work of the grade" (61% and 67%, respectively) and "Launch/Focus on Fluency" (60% and 65%, respectively).

Half of the teachers (50%) and a majority of instructional leaders (57%) reported attending "Pre-Launch" PLO. Close to half of the teachers (46%) and one half of instructional leaders (51%) reported participating in "Preparation for Customization". Additionally, about a third of teachers (37%) reported attending the PLO on "Solving Word Problems Using Tape Diagrams", compared to a majority of instructional leaders (57%). A total of 22% of both groups reported attending the "Number Core" PLO.

For the PLOs exclusive to Instructional Leaders, a majority reported attending, "Hone the Concept Development" (68%), "Equip Rollout" (54%), and "Read-Write-Draw" (58%). Further 40% reported attending "Strong Start for Leaders - Strategic Planning and Effective Feedback."

*The PLOs specified in this list were expected/highly recommended but not mandatory.

Participation in PLOs Designed for Instructional Leaders Only

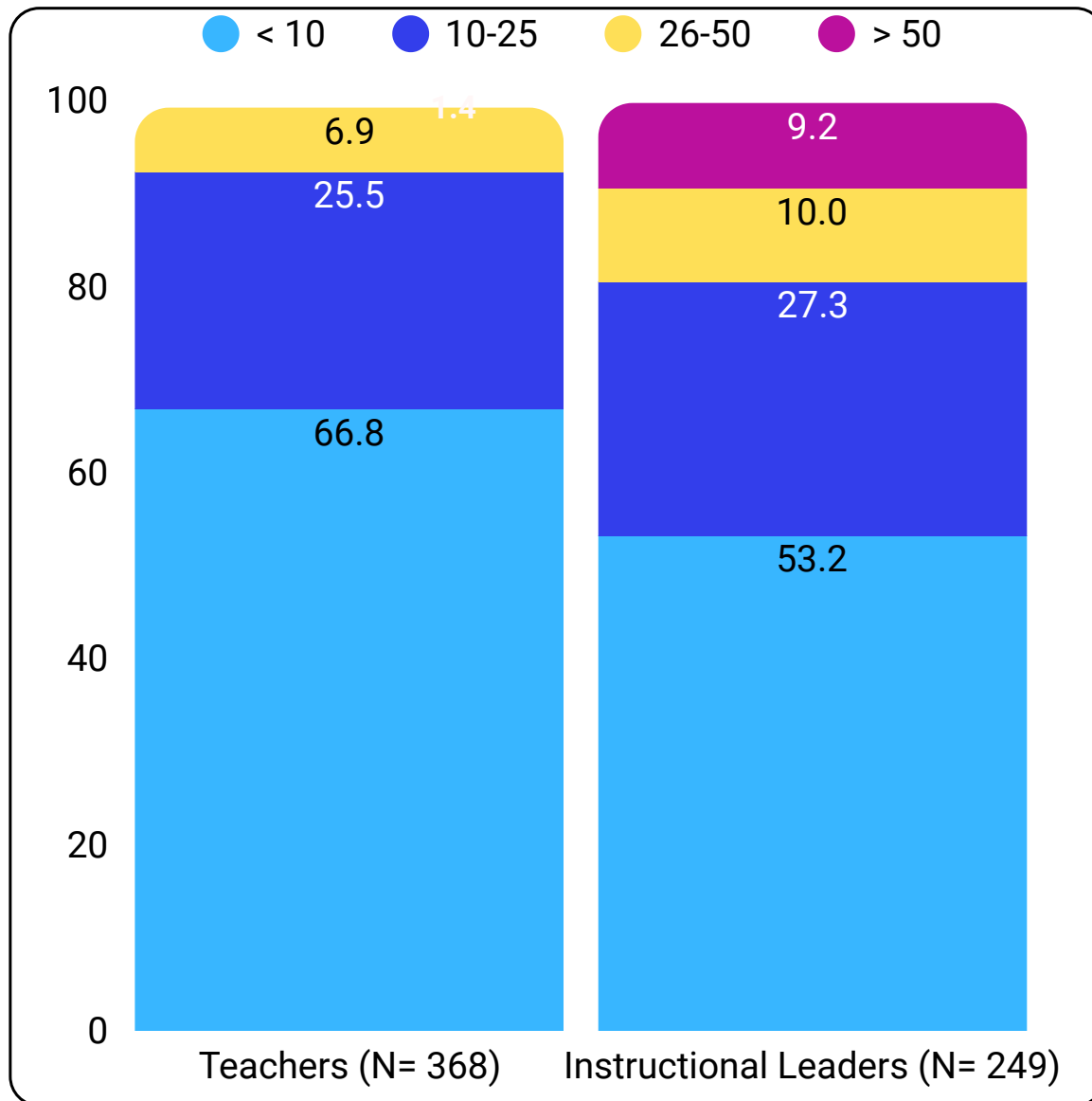




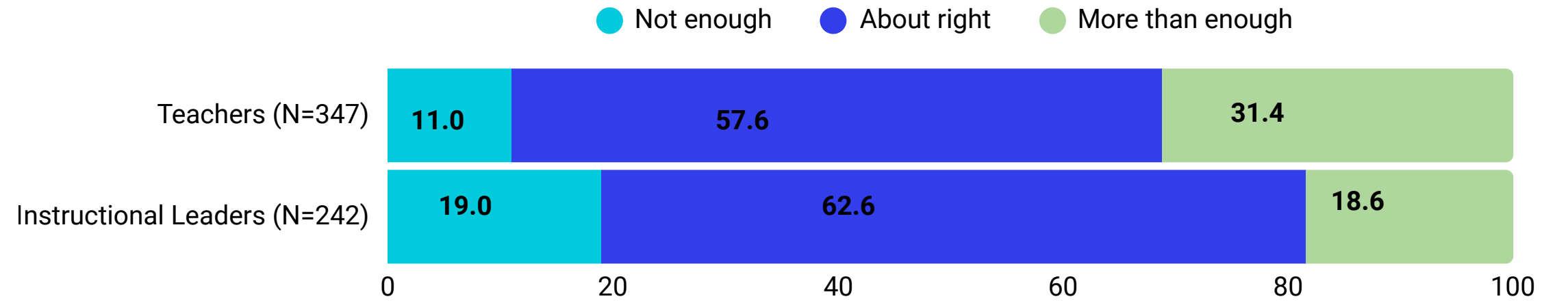
Results: Staff Surveys

Experiences with PLOs Related to Implementation of Eureka Math 2023–2024

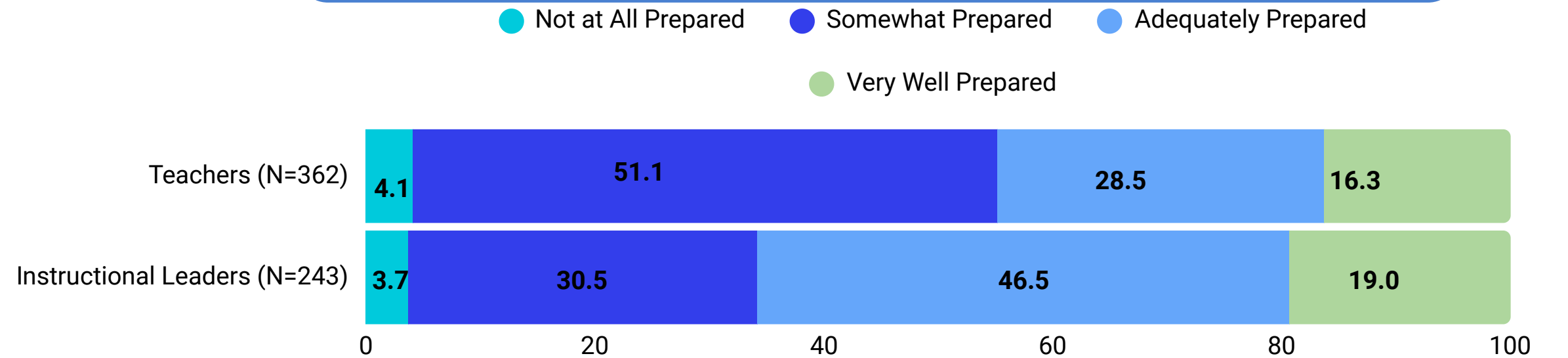
Estimated # Hours PLOs related to implementation of Eureka Math



PLOs about Eureka Math respondents had so far was...



Extent PLOs equipped staff to effectively implement CCSS-based instruction



Findings

Teachers and instructional leaders reported varying amounts of professional development related to Eureka Math: 67% of teachers and 54% of instructional leaders reported receiving 10 or fewer hours, while 26% of teachers and 27% of instructional leaders reported receiving between 10 and 25 hours. A smaller percentage, 5% of teachers and 19% of instructional leaders, reported receiving more than 26 hours from summer 2023 to the time they took the survey in spring 2024 (February-March). More than half of them felt that the PLO offered for Eureka Math was about right (58% vs 63%) or even more than enough (31% vs 19%). Even though most agreed that the training concerning Eureka Math was sufficient, only 44% of teachers felt adequately prepared (28%) or very well prepared (16%) to effectively implement Maryland CCSS-based math instruction, whereas 66% of instructional leaders felt adequately prepared (47%) or very well prepared (58%).



Results: Staff Surveys

Perceptions of Adequacy of Content and Design

Percentage Reporting Strongly Agree or Agree

Aspect	Teachers	Instructional leaders
Aligned with grade-level Maryland Common Core State Standards (CCSS).	91.3	91.3
Grade-level objectives are presented in an easy-to-follow format.	86.2	82.6
Develops understanding of the correct approaches to solving real-world problems.	83.3	75.0
Lessons progress from the concrete [hands-on activities] to the representational [pictorial representations] to the symbolic [abstract mathematical concepts].	81.8	--
The pacing of lessons is aligned with the MCPS instructional calendar.	81.3	74.1
The learning tasks promote students mastery of grade-level standards	76.6	79.1
Content uses latest/most effective principles/EBP-Strategies/practices proven effective through research.	64.3	79.4
Clearly distinguishes between a mastery and enrichment outcomes.	54.0	56.2
Integrates explicit instruction in daily lessons for EMLs	50.4	44.1
Explains how to tailor instruction to meet the needs of students with disabilities.	47.4	46.0
For advanced instruction, there are a variety of entry points and accelerated learning pathways.	46.5	66.1
Offers teachers the flexibility to adjust their instruction as needed.	44.2	41.6
Provides tier-based interventions for students who do not meet learning standards.	37.9	34.5

Respondents were given five response options: Strongly Agree, Agree, Neutral, Disagree, and Strongly Disagree.

--This item was not included in the instructional leaders survey.



Findings

In general, perceptions of the content and design of Eureka varied by aspect. They were categorized into three levels based on teacher responses: low, moderate, and high agreement with the specified characteristics.

High Agreement (Over 80%)

- Alignment with Maryland grade-level CCSS
- Grade-level objectives are presented in an easy-to-follow format
- Solving real-world problems
- Lessons progress from the concrete to the representational to the symbolic
- Incorporates the latest and most effective educational principles and evidence-based practices (EBP)

Moderate Agreement (50%–79%)

- Distinguishes between mastery and enrichment outcomes
- Integrates explicit instruction in daily lessons for students learning English/EMLs.

Low Agreement (Less than 50%)

- Explains how to tailor instruction for students with disabilities
- For advanced instruction, provides varied entry points and accelerated learning
- Offers teachers instructional flexibility to adjust instruction as needed
- Provides tier-based interventions for students who do not meet learning standards or grade-level targets
- The widest difference in disparity was in perceptions of availability of entry points into advanced instruction in Eureka Math: 47% of teachers agreed, while 66% of instructional leaders did.



Results: Staff Surveys

Open-ended Comments About Content and Design

Illustrative comments from staff about Eureka Math

Teachers and instructional leaders reported ...

“The coherence and progressions from Pre-K to 5 are very strong! It has enhanced teachers' ability to understand and teach math better.”

“The vocabulary, the strategies, and the understanding from concrete to abstract is apparent.”

“The materials are great; the 3 student workbooks, and the teacher guides are very well done, and it is very helpful that all the materials can also be accessed online.”

“It has been extremely challenging to customize instruction enough to meet the needs of our lowest performing students.”

“The consistent use of mathematical models across grade levels has been integral in developing our students' number sense and ability to understand math concepts.”

“The pacing of one lesson a day is too intense and not appropriate for some of our learners. It being time bound and not mastery is a very difficult concept to understand in effective instruction.”

“Text size is too small. Again, VISUALS MATTER. Having larger text sizes makes it less intimidating for students who struggle in Math, reading, or both.”

“The reading levels are too high for the students with reading issues. There is too much unnecessary language.”

“We aren't able to truly meet the needs of all learners in a typical math block.”

“Instructional leader”

“Teacher”



Findings

In total, 144 teachers and 96 instructional leaders provided open-ended feedback on the content. The themes extracted from these responses, each based on at least 10 comments, elaborated on the strengths and challenges highlighted by the staff regarding the content and design.

Strengths of Eureka Math: Staff highlighted several strengths, including Eureka Math's clear and coherent progression from Pre-K to Grade 5. Teachers praised the curriculum's consistent mathematical models, which enhance students' understanding and build strong foundational skills. The rigorous problem-solving approach encouraged critical thinking and effective application of knowledge across various contexts, enhancing teaching and learning experiences in math classrooms.

Complexity and Pace: Many teachers noted that the pace of Eureka Math was too fast, making it difficult for both students and teachers to keep up. The rapid introduction of new concepts left little time for mastery, which can overwhelm some learners.

Ease of Locating and Using Resources: Reviews on resource availability were mixed. While some reported that they appreciated the depth of resources like homework helpers and fluency practice, others found it cumbersome to locate and integrate them into their teaching effectively.

Differentiation and Adaptation: Staff expressed a need for more flexibility and support in adapting Eureka Math for many types of learners, including EMLs, students with IEPs, and those below grade level. They struggled to differentiate instruction effectively within the curriculum's structured framework.



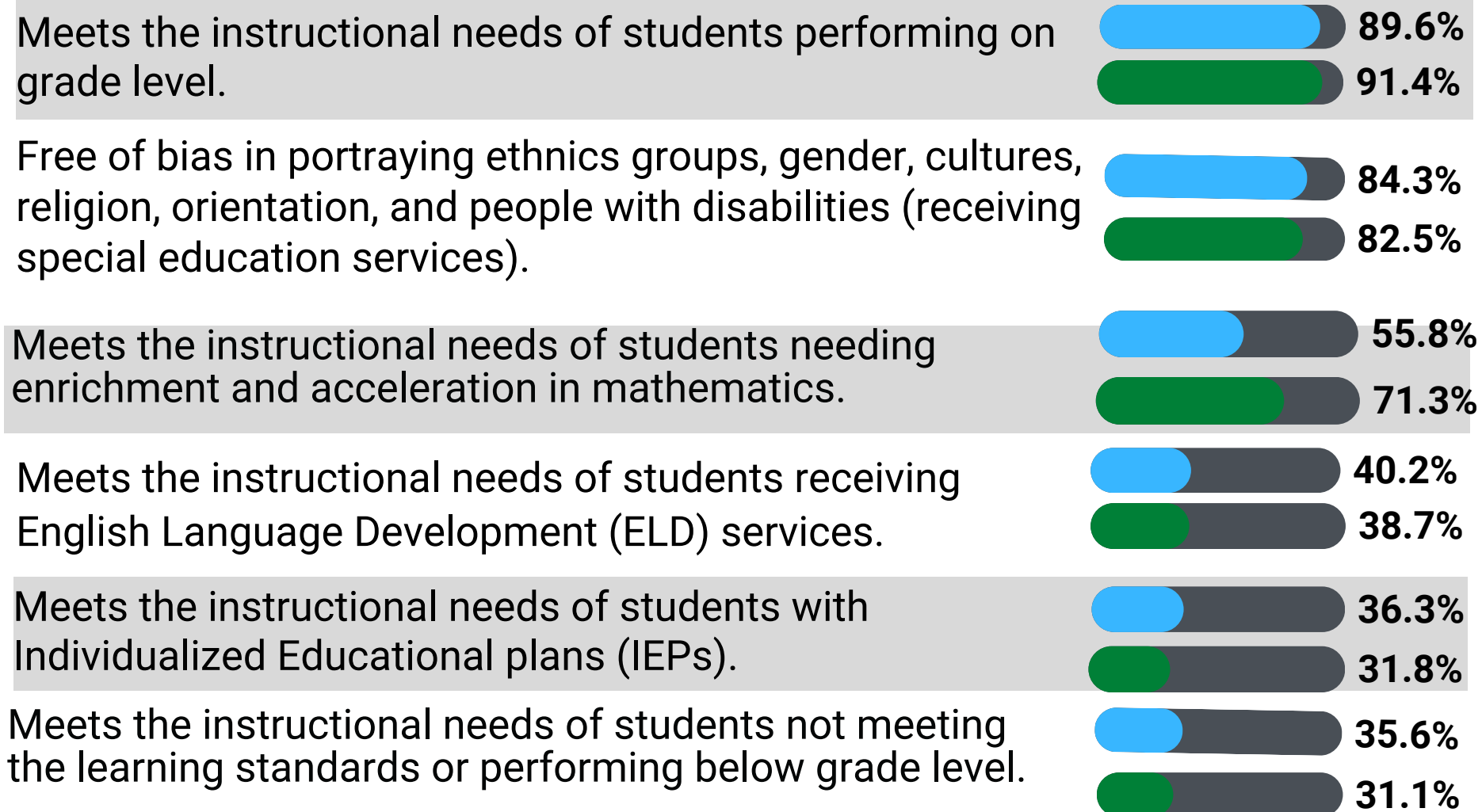
Results: Staff Surveys

Perceptions of Inclusivity and Cultural Responsiveness*

Classroom teachers

Instructional leaders

Percentage with Rating of Agree or Strongly Agree



*Respondents had 5 response options: Strongly agree, Agree, Neutral, Disagree, and Strongly disagree.



Findings

The perceptions expressed among teachers and instructional leaders about the inclusivity and cultural responsiveness of Eureka Math curriculum varied by dimension of Eureka Math/item.

- **Four-fifths of teachers (90%) and instructional leaders (91%) strongly agreed or agreed that Eureka Math is suitable for students at on-grade level.**
- **Over 80% acknowledged that the curriculum is unbiased** in its representation of racial/ethnic groups, genders, cultures, religions, orientations, and individuals with students receiving special services (84% and 83% respectively).
- Notably, **56% of teachers compared with 71% of instructional leaders**, agreed that Eureka Math meets the needs of students **needing enrichment and advancement in mathematics**.
- Forty percent or less of teachers and instructional leaders agreed that Eureka Math resources:
 - Meet the needs of students receiving ELD services (40% and 39%, respectively).
 - Are suitable for students below grade level or students with IEPs (36% and 32%, respectively).
 - Cater to students not yet meeting learning standards or performing below grade level (36% and 31%, respectively).



Results: Staff Surveys

Open-ended Comments about Inclusivity

Illustrative about Eureka Math

Teachers and instructional leaders reported ...

“ Tier-1 enrichment is good for the upper grades, but doesn't always pose enough of a challenge for the younger grade students. ”

“ There are options for enrichment, teachers are still struggling to find the time to find them, prepare them, and use them. ”

“ Exit tickets are sometimes harder than they should be. Assessments are lengthy and sometimes confusing. I need to use Xtramath and Zearn every day to reinforce concepts. ”

“ There is not a Tier 3 intervention that aligns with Eureka for Special Education students. The vocabulary used in the Eureka curriculum is not culturally sensitive to many of our students. ”

“ Students struggling with math skills have a very difficult time following the curriculum because there is WAY too much difficult math language, way too much reading. ”

“ Upgrade to Eureka 2.0 for more support for students with IEPs and EMLs. ”

“ Students with special needs need to practice one way many times. Teachers have to really search elsewhere for enrichment opportunities are remediation. ”

“ It has been extremely challenging to customize pacing and instruction enough to meet the needs of our lowest performing students, as well as our ELs. ”

“ This curriculum is absolutely abysmal for students with significant learning needs and IEPs. ”

“ Instructional leader ”

“ Teacher ”



Findings

In their open-ended comments, 144 teachers and 99 instructional leaders provided feedback, with over 40 comments from each group addressing the suitability of the Eureka Math curriculum and resources for various student needs. Key themes from comments made by 10 or more respondents from both groups included:

Challenges for EMLs: Respondents expressed concerns about the language of Eureka Math not being inclusive or easily understandable for EMLs. The limited engagement with the materials posed significant challenges for these students in grasping math concepts effectively. Staff expressed a clear need for enhanced support materials tailored to EMLs to improve their engagement and comprehension during lessons.

Addressing needs for students receiving special education services: Data from open-ended comments indicated that Eureka Math inadequately supported students with special needs, such as those with IEPs. The curriculum's pace and complexity of language often hindered these students' ability to keep up with their peers. Respondents emphasized the absence of adapted resources specifically designed to meet the learning needs of these students, stressing the necessity for targeted support strategies to facilitate their success in math.

Engagement and enrichment opportunities: Respondents expressed a strong desire for more engaging and enriching activities within Eureka Math. They conveyed dissatisfaction with current enrichment materials that often failed to sufficiently challenge high-performing students and emphasized the need for more rigorous and accessible enrichment activities, including the creation of Tier 2 options, to effectively extend learning for advanced students.



Results: Staff Surveys

Perceptions of Tools for Monitoring Growth/Progress*

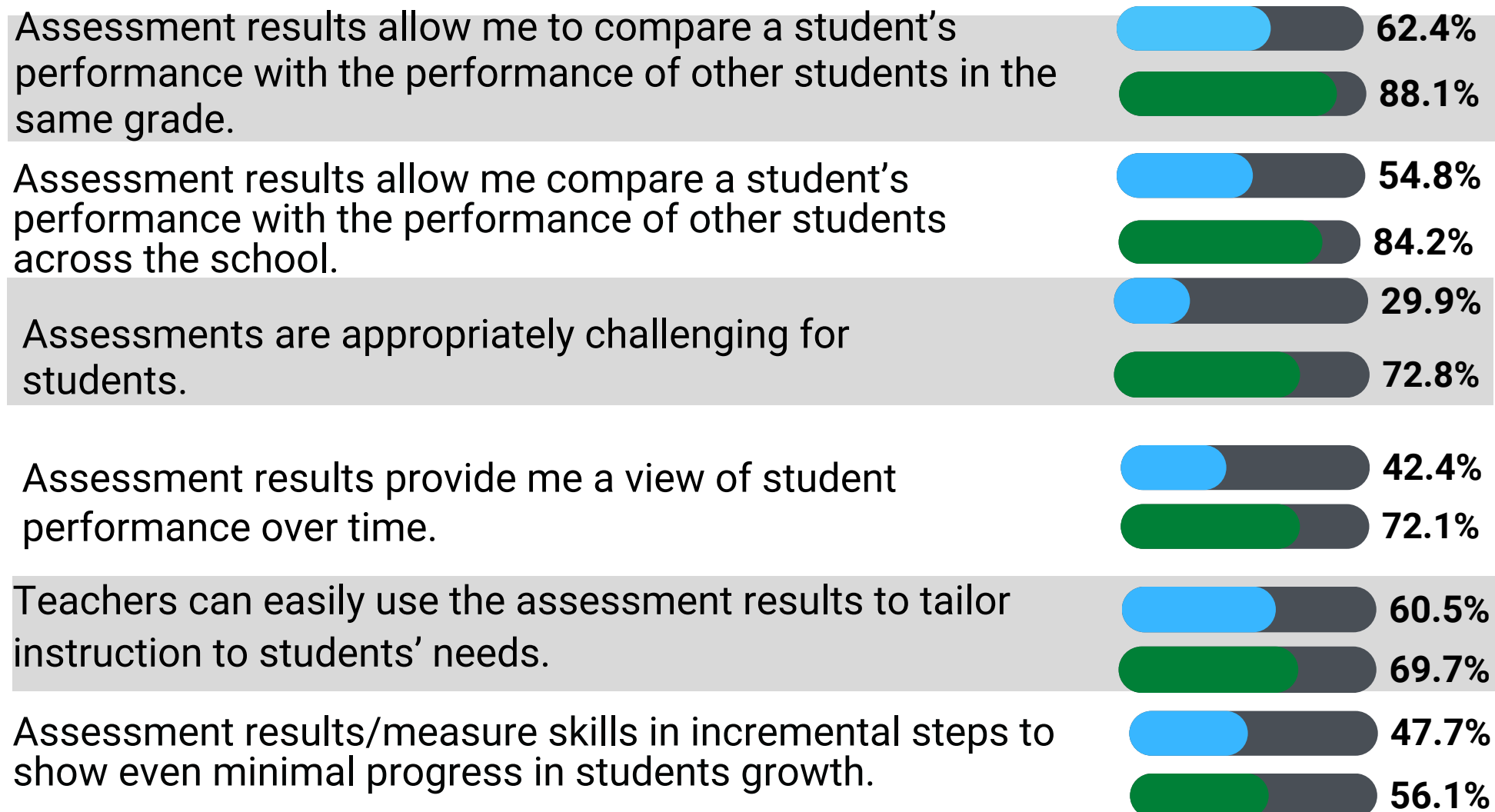
Classroom teachers



Instructional leaders



Percentage with Rating of Agree or Strongly Agree



*Respondents had 5 response options: Strongly agree, Agree, Neutral, Disagree, and Strongly disagree.



Findings

The survey results indicated differing perceptions between teachers and instructional leaders regarding the assessment tools within Eureka and the utility of the assessment results. Most teachers (62%) agreed that assessment results enabled them to compare a student's performance within the same grade, and 55% agreed they results allowed them to compare performance across the school. In comparison, over 80% of instructional leaders agreed on both aspects.

- The most notable difference in perceptions about assessments between teachers and instructional leaders was regarding the challenge level of the assessments for students. Only 30% of teachers versus 73% of instructional leaders felt the assessments were appropriately challenging for students.
- Similarly, 42% of teachers compared to 72% of instructional leaders believed the assessment results offer a comprehensive view of student performance over time.
- More than sixty percent of teachers (61%) compared to 72% of instructional leaders believed teachers can easily use the assessment results to tailor instruction to students' needs.
- Regarding Eureka Math assessment results, 48% of teachers compared with 56% of instructional leaders agreed that assessments from Eureka Math track skill development in small steps to indicate even minimal progress in student growth.

The differences in perceptions of the assessment tools likely reflect the distinct roles and uses for data of teachers and instructional leaders. These findings highlight a divergence in how each group uses and interacts with the assessments in Eureka Math, as well as their familiarity with these tools.



Results: Staff Surveys

Open-ended Comments: Tools for Monitoring Progress

Illustrative Comments of Anything Else about Eureka Math

Teachers and instructional leaders reported ...

“The assessments students take do NOT align with the Eureka curriculum. They are often wordy and offer little to no data to adapt Eureka instruction on a daily basis.”

“Issues with the difficulty level and fairness of assessments, particularly for ELLs and students with disabilities.”

“More options for modifying assessments based on student needs would be beneficial.”

“I like the curriculum, but it is sometimes not what is on the Map tests so it is harder to compare growth over time.”

“MCPS has not purchased ALL the components that are offered by Eureka which includes the topic check-ins and as a result, teachers are having to design their own.”

“It's challenging to differentiate assessments effectively because they are uniform in format and difficulty.”

“The assessments are particularly difficult for new readers in first grade. Many are very wordy, requiring 6 year olds to flip between pages back and forth.”

“The assessments need more pictures to make the format much friendlier for our students, especially those in learning centers who struggle with the text-heavy nature of Eureka.”

“Teacher are using a tremendous amount of their own time to create the assessments, that are just clones of the mid module or end of module.”

“Instructional leader”

“Teacher”



Findings

Through open-ended comments, respondents shared detailed insights on assessments and monitoring tools. Of the 273 and 249 who responded to the survey, 144 teachers and 99 of instructional leaders provided comments, with more than 30 from teachers and instructional staff providing comments related to assessments. The comments fell into two themes:

Alignment of Assessments with Taught Lessons: Concerns were raised about the alignment of assessments in Eureka Math on the Performance Matters platform with lessons they were teaching. Teachers expressed frustrations that assessments often did not match what was taught or meet their students' learning needs accurately, making it difficult to measure progress effectively. Additionally, Eureka does not use technology, yet students were required to use technology to take assessments--which affected their adjustment.

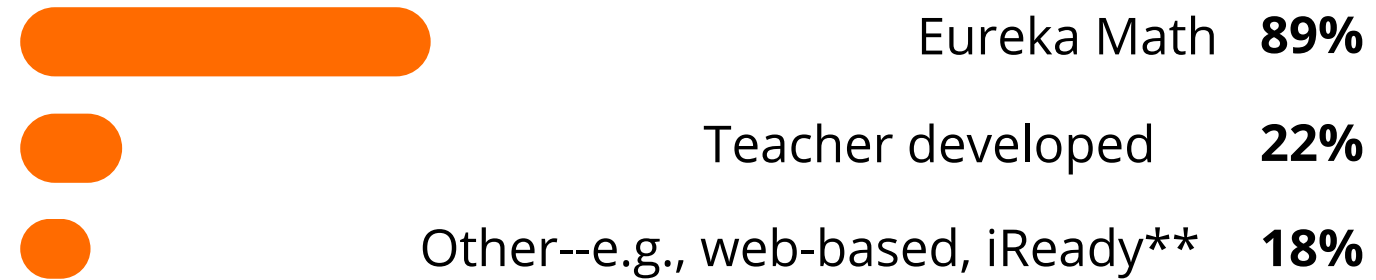
Complexity of Assessments: Many respondents found the assessments overly complex and lengthy, especially mentioning challenges for young or struggling readers. They emphasized the need for more visual aids to improve comprehension and navigation during assessments. Additionally, staff faced difficulties in effectively differentiating assessments to meet the diverse needs of their students.



Results: Staff Surveys

How Teachers Used non-Eureka Math Resources: Semester 1

Percentage* of Semester 1 Instructional Time Teachers Used Specified Resources



Percentage Reporting Purpose and Frequency of use of Non-Eureka Resources (N= 360)

Specified Purpose	Never	Sometimes	About half the time	Most of the time/Always
Source of student work for students needing enrichment and acceleration.	21.7	32.0	15.6	30.6
To build assessments (e.g., quizzes, tests).	32.2	36.9	12.4	18.5
As a resource for learning tasks for students with IEPs.	34.6	38.8	11.1	15.5
To refresh the students content knowledge.	21.7	51.1	13.9	13.3
Resource for learning tasks for students receiving ELD services.	37.0	38.7	11.2	13.2
For exemplars to present within a lesson.	47.5	36.5	6.5	9.6
To introduce/teach lessons.	39.7	45.6	6.7	8.1
Source of learning tasks for student assignments.	35.5	45.7	11.1	7.8
Source of practice for students to use for homework.	59.9	26.5	5.8	7.7
To refresh my content knowledge.	52.6	34.7	6.6	6.1

Note: This was a check-all-that-apply item, so responses could exceed 100% if multiple resources were used simultaneously. **Utilization of i-Ready Math in conjunction with Eureka core instruction to deliver intensive Tier 3 intervention.



Findings

To further understand the extent of teachers' use of alternative resources, teachers were asked to estimate the percentage of instructional time during Semester 1 they used: Eureka Math, self-created materials, and other resources. Eureka Math was used for nearly all the instructional time, accounting for 89% of the total time.

Teachers reported they also utilized materials they had developed themselves for approximately 22% of the time. Other resources, such as web-based tools and i-Ready, were used for an average of 18% of instructional time during Semester 1.

A follow-up question explored the frequency of usage and objectives of non-Eureka resources. Nearly half of the participants (47%) mentioned they used non-Eureka resources to support students in need of enrichment and acceleration, with 16% using them half of the time, and 31% using them most of the time or always. A considerable number of teachers reported sometimes (51%) used non-Eureka resources to reinforce students' content knowledge, with 14% using them half of the time, and 13% using them most of the time or always.

On the other hand, it is worth noting that the majority of teachers stated that they never used non-Eureka resources to enhance their own content knowledge (53%) or assign homework practice (60%).



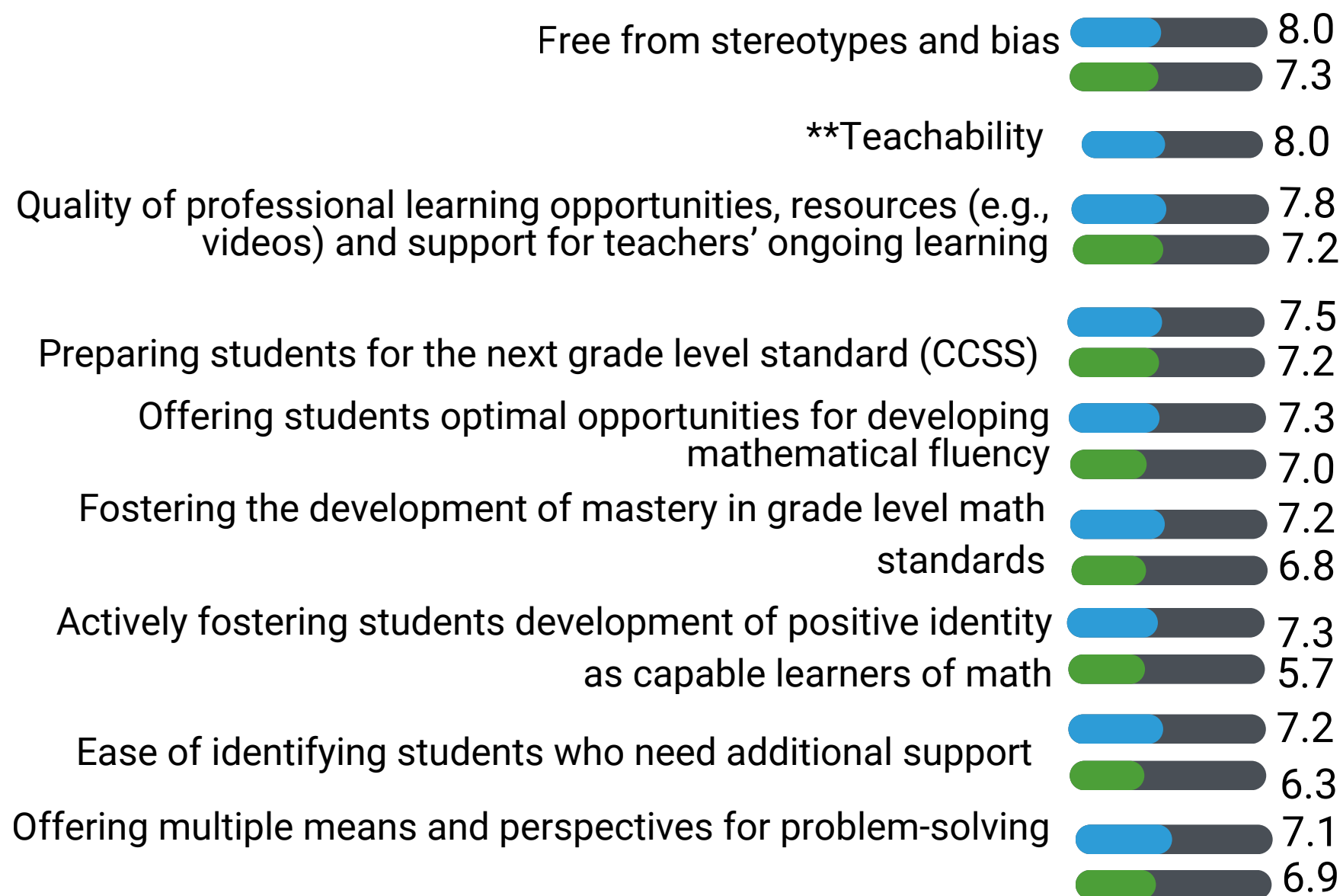
Results: Staff Surveys

Overall Ratings: Attributes of Eureka Math

Classroom teachers

Instructional leaders

Average Ratings* by Role: From 0 (Poor quality) to 10 (Perfect)



*Overall ratings on specified attributes are sorted from highest to lowest based on teacher ratings and continue to the next page. *Item was on teacher survey only. ** Item was on teacher survey only. On the survey, *teachability* was defined as: "provides educators with precisely what they require, enabling them to focus on delivering high-quality instruction tailored to their students' needs".



Findings

Teachers and instructional staff rated the Eureka Math curriculum on a scale from 0 to 10 across various attributes. Among the 369 responding teachers and 249 instructional leaders, the average ratings were classified as high (7–10), moderate (5–6.9), or low (below 5). Notably, no attributes received low ratings from teachers. The average ratings, categorized by role and organized by teachers' average scores, revealed the following:

High quality (7–10): Teachers identified 12 out of 17 attributes as high quality, while only 4 attributes received high ratings from instructional leaders. Both groups concurred on several highly rated aspects: "Free from stereotypes and bias," with an average of 8.0 for teachers and 7.3 for instructional leaders; "Quality of professional learning opportunities and resources," rated 7.8 for teachers and 7.2 for instructional leaders. "Preparing students for next grade level standards," rated 7.5 for teachers and 7.2 for instructional leaders; and "Offering optimal opportunities for developing mathematical fluency," 7.3 for teachers and 7.0 for instructional leaders.;

Moderate quality (5–6.9). Teachers rated 5 attributes as moderate quality, while instructional leaders rated nine of the 17 attributes similarly. Also, notable is that while teachers tended to provide moderate quality/mid-range ratings, instructional leaders often rated the same attributes as low quality. "Tools for documenting progress" was rated 6.4 by teachers and 5.9 by instructional leaders. "Enriched learning in mathematics" received 6.2 from teachers but below 5.0 from leaders. "Addressing needs of a wide range of learning levels" was rated 6.1 by teachers and 4.6 by leaders. "Accessibility for emergent multilingual learners" was rated 5.7 by teachers and 4.5 by leaders, while "readability" received 5.6 from teachers and 4.1 from leaders.



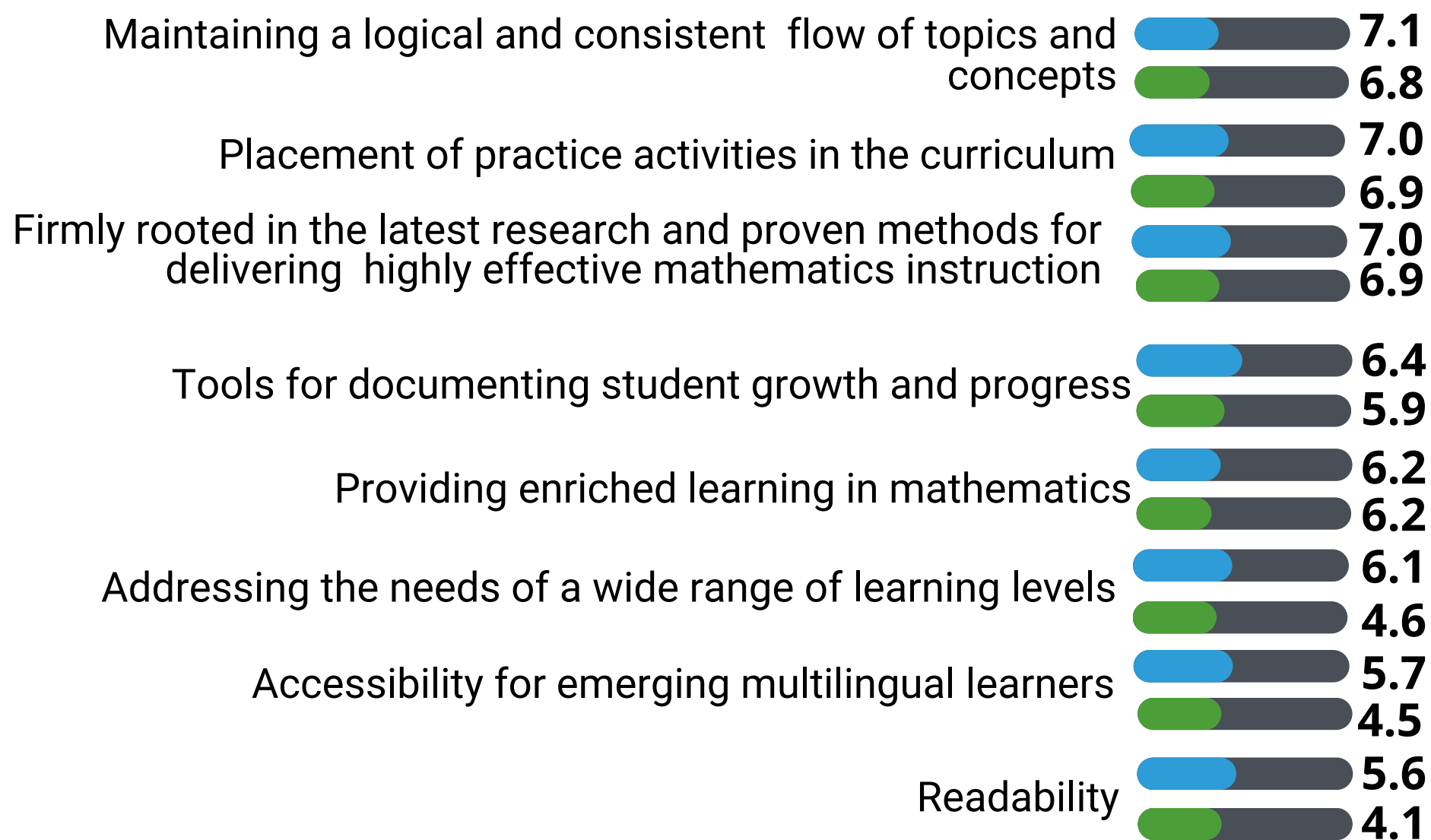
Results: Staff Surveys

Overall Ratings: **Attributes** of Eureka Math (Continued)

Classroom teachers

Instructional leaders

Overall Ratings by Role: From 0 (Poor quality) to 10 (Perfect)*



*Overall ratings on specified attributes are sorted from highest to lowest based on teacher ratings.



Findings

Low quality. Teacher ratings for all aspects of the Pre-K to 5 Eureka Math curriculum were above 5.0. On the other hand, instructional leaders rated three specific areas as low quality. These areas included "Addressing the needs of a diverse range of learning levels," which received a rating of 4.6, while teachers rated it much higher at 6.1. Additionally, "Accessibility for emergent multilingual learners" received a score of 4.5, and "Readability" also garnered a rating of 4.1, highlighting the discrepancy between teacher and instructional leader assessments in these critical areas.



Results: Staff Surveys

Option to Select Eureka Math Curriculum for Pre-K to 5



Findings

Percentage of respondents who **would choose** Eureka Math for Pre-K–5



67.5%

**Teachers
(N=345)**



61.2%

**Instructional
leaders (N=245)**

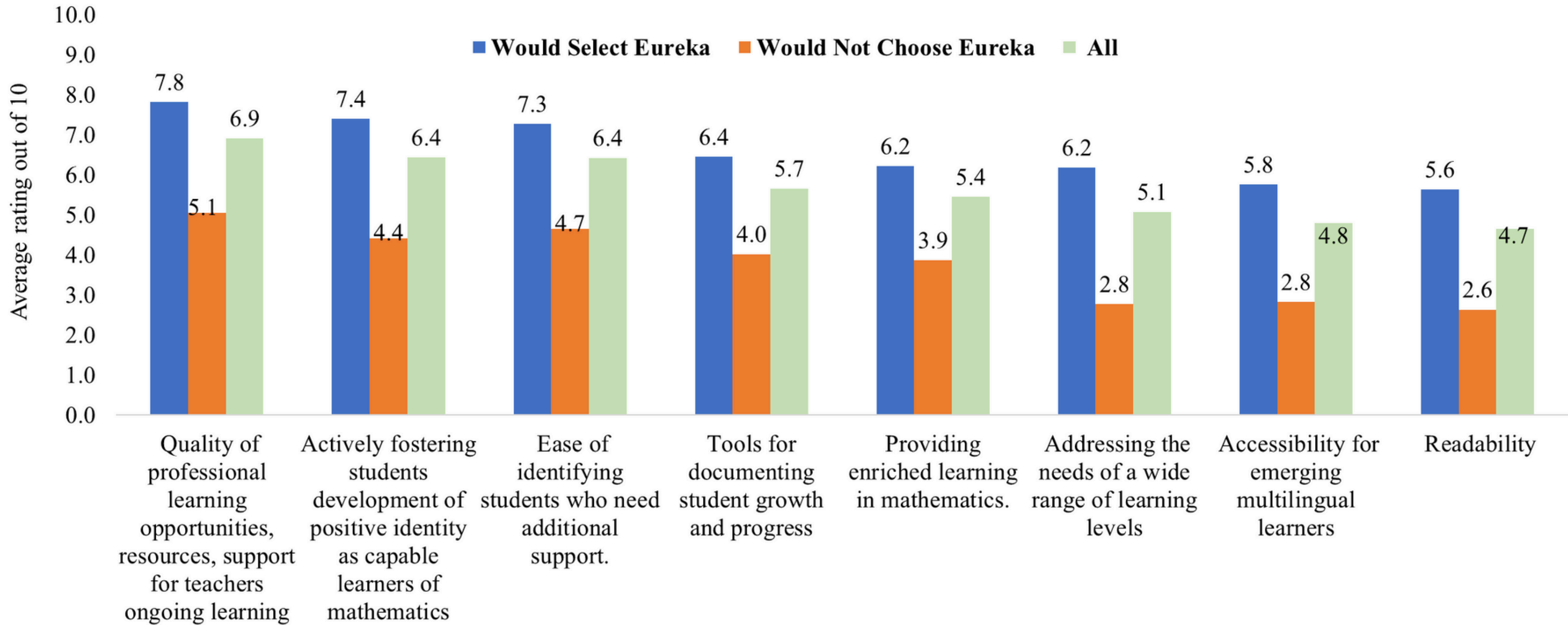
Even when educators are content with a curriculum, they might still lean towards another choice. Therefore, one item was used to determine their preference for Eureka Math when selecting a curriculum. The results indicated that given a choice to select a curriculum for MCPS, three fifths, (68% of teachers and 61% of instructional leaders) would choose Eureka Math for Pre-K–5 math. However, approximately one third of the respondents (32–39%) showed some hesitation.

Further analysis revealed clear differences between those supporting Eureka Math and those who did not. Staff members who were not in favor of Eureka Math consistently rated specific aspects lower than those who would select Eureka Math. This trend was consistent across staff roles, regardless of whether the respondent was a teacher or an instructional leader. The following sections will provide detailed insights into these distinctions.



Results: Staff Surveys

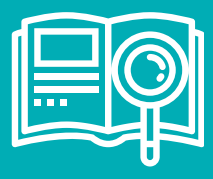
Comparison of Ratings: Areas Rated Lowest by Teachers Less Supportive of Selecting Eureka Math



Findings

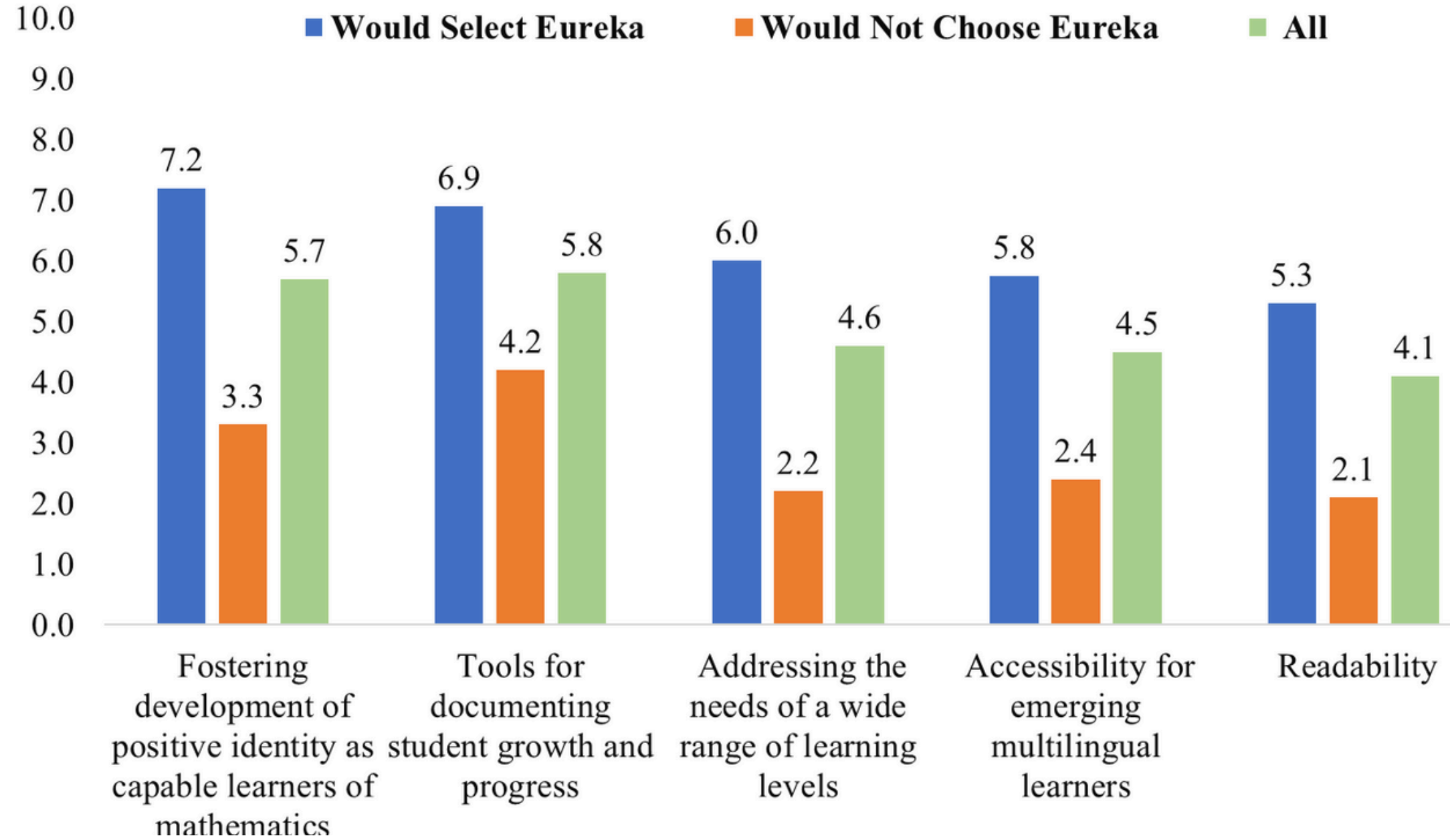


Teachers who would select Eureka Math for MCPS students consistently rated its qualities higher than those who would not in **seven areas**: fostering students' positive math identity (7.4 vs. 4.4), ease of identifying students needing support (7.3 vs. 4.7), tools for documenting student growth and progress (6.4 vs. 4.0), providing enriched learning experiences (6.2 vs. 3.9), addressing the needs of a wide range of learning levels (6.2 vs. 2.8), accessibility for multilingual learners (5.8 vs. 2.8), and readability (5.6 vs. 2.6). These findings underscore concerns among teachers who would not choose Eureka Math, particularly regarding its effectiveness in meeting diverse learning needs, accessibility for EMLs, and readability.



Results: Staff Surveys

Comparison of Ratings: Areas Rated Lowest by Instructional Leaders Less Supportive of Eureka Math



Findings



Instructional leaders who would still choose Eureka Math for MCPS students consistently rated its qualities higher than those who would do not. Notable variations between the two groups were observed in **five areas**: tools for documenting student growth and progress (6.9 vs. 4.0), actively fostering students' development of a positive identity as capable learners of math (7.2 vs. 3.3), addressing the needs of a wide range of learning levels (6.0 vs. 2.2), accessibility for emerging multilingual learners (5.8 vs. 2.4), and readability (5.3 vs. 2.1). These distinctions highlight concerns among instructional leaders who would not choose Eureka Math, particularly regarding its effectiveness in promoting a positive math identity, meeting diverse learning needs, and ensuring accessibility and readability for all students.



Results: Student Performance

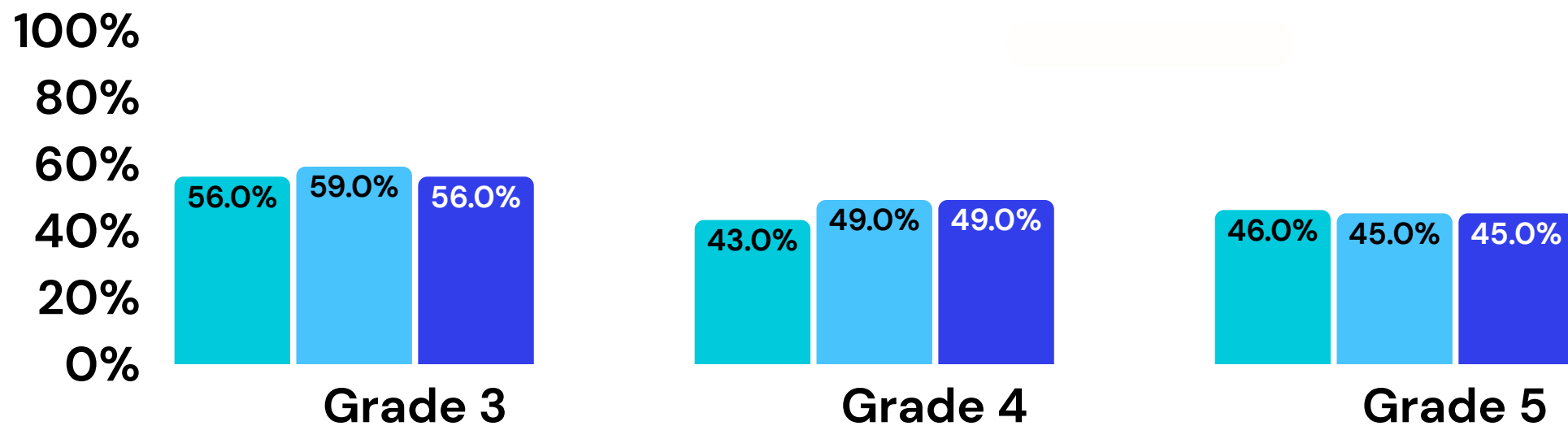
MCAP Mathematics Performance: 2022 to 2024 by Grade

Average MCAP Scores for Cohort 1 Schools by Year

Year	Grade	N	Mean	SD	Median
2022	Grade 3	3,775	754.2	26.7	754.0
	Grade 4	3,654	747.4	22.0	746.0
2023	Grade 3	3,659	755.4	26.6	756.0
	Grade 4	3,782	749.0	20.4	749.0
	Grade 5	3,741	746.7	19.1	746.0
2024	Grade 3	3,694	753.8	26.9	754.0
	Grade 4	3,710	747.5	19.3	746.0
	Grade 5	3,875	747.5	19.3	746.0

Percentage of Students Scoring at Level 3 and 4 on MCAP

● 2022 ● 2023 ● 2024



Note. MCAP assessments categorize student performance into four levels: Beginning Learner, Developing Learner, Proficient Learner, and Distinguished Learner.



Findings

The objective of the MCPS elementary math program is for every elementary student, from Pre-K–5, to attain mathematical proficiency in accordance with the Maryland College and Career Ready standards Maryland Common Core State Standard (CCSR).

The MCAP scores range between 650 and 850 and are aligned with four performance levels: beginning (650–724), developing (725–749), proficient (750–789), and distinguished (790–850). MCAP scores for students in Grade 3 remained stable from 2022 to 2024, with mean scores ranging from 753.8 to 755.4 and median scores around 754.0. For students in Grade 4, the mean was around ranged from 747.4 in 2022 to 747.5 in 2024. Scores for students in Grade 5 remained consistent, with mean scores between 746.7 and 747.5, and median scores steady at 746.0.

The three-year trends in MCAP performance from 2022 to 2024 showed minimal variations for students in Grade 3, with 56–59% scoring at or above the proficient level each year. For students in Grade 4, rates increased from 43% in 2022 to 49% in both 2023 and 2024. Performance for students in Grade 5 remained stable, with 46% proficient in 2022 and 45% in both 2023 and 2024.

The year-to-year differences within each grade ranged from 1 to 3 percentage points, indicating relatively similar performance across the three years.

Results: Student Performance

MCAP Performance 2022–2024 by Student Groups

Findings

Percent of Cohort 1 Students at Level 3 and 4 (Proficient and Above) on MCAP: 2022 to 2024

Grade/Year	Grade 3			Grade 4			Grade 5		
	2022	2023	2024	2022	2023	2024	2022	2023	2024
Cohort 1	56.0	58.7	55.5	42.7	48.8	48.6	46.1	44.6	45.3
Asian	79.9	81.3	76.6	69.8	75.4	72.6	75.2	73.7	72.9
Black or African American	45.2	51.3	45.8	28.0	33.5	31.0	29.9	28.3	37.4
Hispanic/Latino	29.6	32.7	30.9	18.6	24.8	20.0	20.7	19.6	24.1
Two or More Races	71.7	71.8	76.5	56.9	64.7	62.9	60.6	61.4	60.5
White	75.9	77.9	77.2	69.5	69.5	64.8	64.8	64.6	68.9
Services									
ELD	25.5	28.0	22.4	14.7	15.8	8.2	25.8	6.7	13.0
No ELD	66.1	67.8	67.9	51.6	59.9	54.2	55.6	52.8	59.6
FARMS	28.2	33.3	30.9	16.3	23.6	21.4	19.2	19.1	23.8
No FARMS	72.1	75.7	75.4	57.5	66.6	60.0	61.0	62.0	64.6
Special Education	27.6	33.3	28.3	19.8	20.5	16.3	28.3	18.8	21.6
No Special Education	59.0	60.7	59.4	45.0	52.9	49.2	48.2	47.6	52.4

Over the three-year span from 2022 to 2024, the percentage of students in Grades 3, 4, and 5 scoring at or above 750 (proficient or distinguished) in Cohort 1 schools (N=42), on the MCAP varied by race/ethnicity and the receipt of services.

Proficiency by racial/ethnic groups: From 2022 to 2024, the percentage of students in Grades 3, 4, and 5 achieving proficiency (scoring at or above 750) on the MCAP remained fairly stable, with minor fluctuations among different student groups. The majority of students identified as Asian (69–80%), White (65–78%), or Two or more races (56–78%) consistently met proficiency standards, regardless of their grade level. In contrast, less than half of the students identified as Black or African American (28–45%) and Hispanic/Latino scored at or above proficiency levels on the MCAP, ranging from approximately 30% to 45%, with slight year-to-year changes.

Proficiency by services receipt: Students not receiving ELD, FARMS, or special education services consistently outperformed those who did, often by a factor of 2 to 3. Majority of students not receiving ELD services achieved scores at proficient or distinguished levels on the MCAP (65% to 68%), while only one quarter or less of students receiving ELD services did (20% to 26%). Similar patterns emerged for students receiving FARMS and special education services, where proficiency rates on the MCAP were around 33% or lower from 2022 to 2024.

Overall, performance trends within each group showed small variations throughout the three-year period.



Results: Student Performance

Grades 3 to 5 Spring MAP-M Performance: 2021 to 2024

Mean RIT Score and Percentage of Students in Grades 3–5 in Cohort 1 Schools Performing At or Above the 50th National Percentile: Spring 2021–2024

Grade	Year	N	Mean RIT scores	% at or Above 50th National Percentile
Grade 3	2019*	3,721	205.8	60.2
	2021	4,381	200.8	52.2
	2022	4,566	202.2	58.0
	2023	4,668	203.0	60.6
	2024	4,486	207.7	67.3
Grade 4	2019*	3,976	217.2	59.8
	2021	4,361	210.3	49.3
	2022	4,365	211.2	52.4
	2023	4,622	214.0	58.5
	2024	4,665	219.1	69.5
Grade 5	2019*	3,899	226.9	61.2
	2021	4,163	221.5	53.8
	2022	4,374	221.9	53.8
	2023	4,417	220.7	57.2
	2024	4,663	226.1	63.3

Note:* The data from 2019* serves as a reference point, illustrating rates prior to the implementation of Eureka Math. While 2020 signifies the onset of the COVID-19 pandemic, no data were available. The following pages will present the 2019 data organized by student groups, along with the trends observed from 2021 to 2024.



Findings

Overall, the spring MAP-M data for cohort 1 schools (N=42) from 2021–2024 indicated a consistent improvement in both mean RIT scores and the percentage of students at the 50th percentile for each grade from 2021 to 2024. These analyses summarized the performance of students in each grade and compared the trends in performance across successive years for each grade.

For **cohorts of students in Grade 3**, mean RIT scores steadily rose from 201 in 2021 to 208 in 2024, accompanied by an increase in the percentage of students at the 50th percentile from 52% to 67%.

Students in **Grade 4** demonstrated a consistent upward trend, with mean RIT scores climbing from 210 in 2021 to 219 in 2024. The percentage of students at the 50th percentile increased from 49 in 2021 to 69% in 2024.

Students in **Grade 5** showed continuous improvement as well, with mean RIT scores from 222 in 2021 to 226 in 2024. Concurrently, the percentage of students in Grade 5 performing at the 50th percentile increased from 54% to 63%.

Note: Score bands are different and increase with each grade level due to the vertically articulated structure of the MAP-M. Therefore, it is essential to analyze improvements in RIT scores within each grade level over time, rather than comparing scores across different grade-levels.



Results: 2019 Performance

Grades 3 to 5 Performance: 2019 Prior to Eureka Math

Percentage of Students in Grades 3–5 in Cohort 1 Schools Performing At or Above the 50th National Percentile: Spring 2019

Groups/Grade	Spring 2019 (Prior to Eureka Math and the COVID-19 Pandemic)		
	Grade 3	Grade 4	Grade 5
Cohort 1	60.2	59.8	61.2
Asian	83.4	81.9	85.1
Black or African American	46.0	44.4	43.0
Hispanic/Latino	36.5	37.6	40.4
Two or More Races	73.0	75.9	70.6
White	76.7	79.3	77.3
Services			
ELD	41.7	41.4	47.7
No ELD	69.8	70.5	68.8
FARMS	33.5	33.2	35.4
No FARMS	74.2	73.4	73.7
Special Education	31.0	27.0	22.2
No Special Education	63.6	63.4	65.2

Note: Score bands are different and increase with each grade level due to the vertically articulated structure of the MAP-M. Therefore, it is essential to analyze improvements in RIT scores within each grade level over time, rather than comparing scores across different grade-levels.



Findings

Data from spring 2019 is provided to contextualize student performance prior to the introduction of Eureka Math and the onset of the COVID-19 pandemic. However, it is essential to interpret the changes in trends from 2019 to 2021 with caution and avoid attributing these shifts solely to Eureka Math. These trends reflect the widespread impact of the pandemic, which influenced all MCPS schools and content areas at both local and national levels.

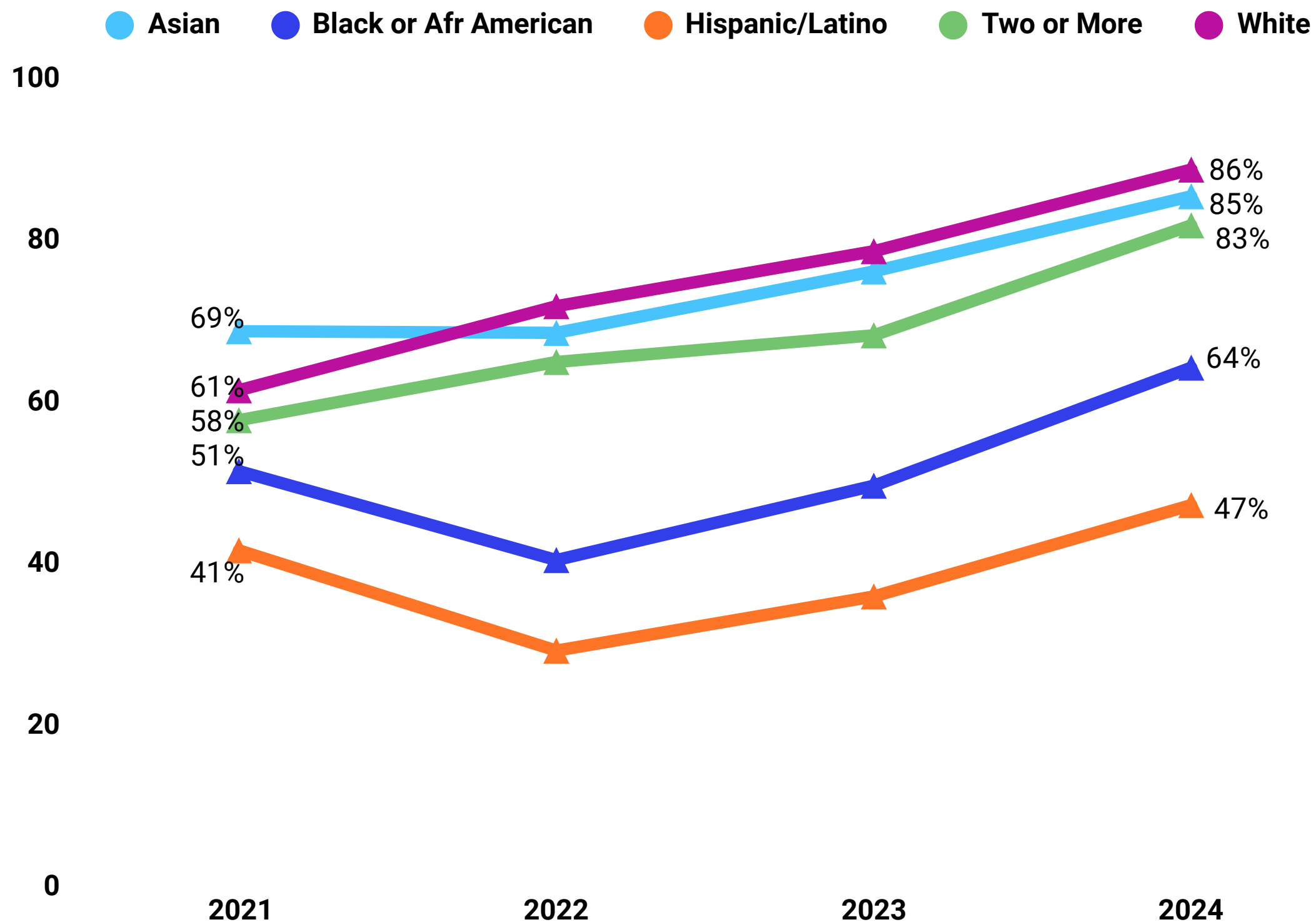
Therefore, in this study, the 2019 scores should be viewed as a reference point rather than a definitive baseline, since a true baseline assumes only one variable is changing, while multiple factors were at play in this scenario.

The subsequent pages will present trends from 2021 onward to display the most current performance levels of elementary school students in relation to district and state targets.

Results: Student Performance

Students in Grade 3 at or Above the 50th Percentile on Spring MAP-M

Percentage of **Students in Grade 3** in Cohort 1 Schools (N=42) Performing at or Above the 50th Percentile by Racial/Ethnic Groups 2021 to 2024



Findings

The following trends were observed for the performance by racial/ethnic groups across successive years for each grade:

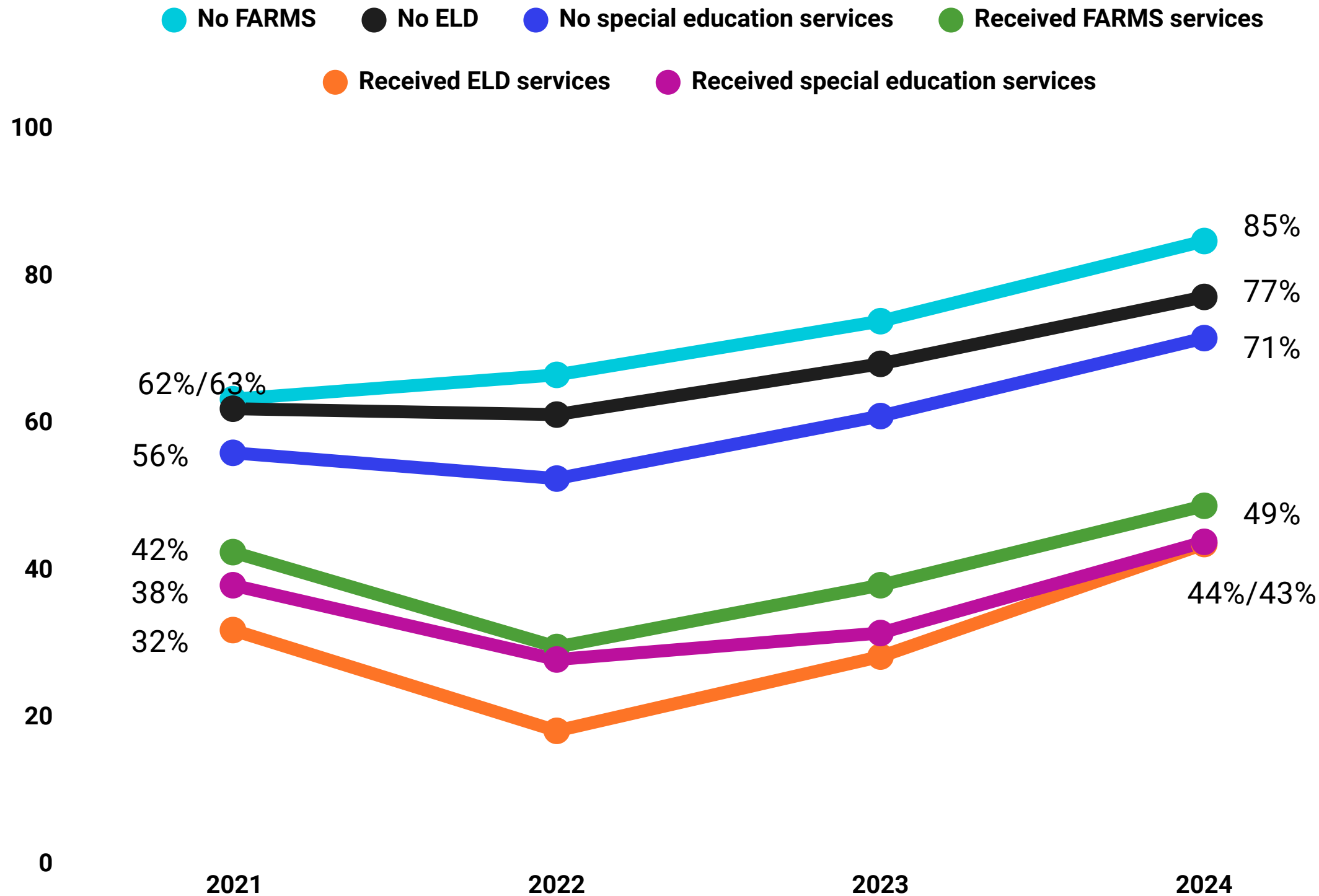
- For any given year, the majority of students in Grade 3 identified as Asian consistently performed at or above the 50th national percentile on Spring MAP, with the percentage increasing from 69% in 2021 to 85% in 2024.
- The majority of students identified as White also performed at or above the 50th percentile, improving from 60% in 2021 to 86% in 2024.
- The majority of students identified as being of two or more races consistently scored at or above the 50th percentile, increasing from 58% in 2021 to 83% in 2024.
- The performance of students identified as Black or African American showed variability in performance from 2021 to 2024, with percentages at or above the 50th percentile as follows: 51% in 2021, 40% in 2022, 49% in 2023, and 64% in 2024.
- Students identified as Hispanic/Latino exhibited fluctuating performance over the years under study, with the percentage at or above the 50th percentile remaining below 50%: 41% in 2021, 29% in 2022, 36% in 2023, and 47% in 2024.



Results: Student Performance

Students in Grade 3 at or Above the 50th Percentile on Spring MAP-M

Percentage of **Students in Grade 3** in Cohort 1 Schools (N=42) Performing at or Above the 50th National Percentile by Service Receipt Status 2021 to 2024



Findings

Performance by FARMs Services Receipt: For each year under study, students in Grade 3 who did not receive FARMs consistently achieved at or above the 50th national percentile, with their percentage increasing from 63% in 2021 to 85% in 2024. In contrast, among students in Grade 3 who received FARMs, the percentage achieving at or above the 50th percentile decreased from 42% in 2021 to 29% in 2022, then increased to 38% in 2023, and further improved to 49% in 2024.

Performance by ELD Services Receipt: Students in Grade 3 who did not receive ELD services demonstrated steady improvement in attaining the 50th percentile or higher, with their percentage increasing from 62% in 2021 to 77% in 2024. Conversely, Grade 3 students who received ELD services showed fluctuating performance. The percentage of these students at or above the 50th percentile decreased from 32% in 2021 to 18% in 2022, then increased to 28% in 2023, and rose to 43% in 2024.

Performance by Special Education Services Receipt. Likewise, students in Grade 3 who did not receive special education services consistently achieved at or above the 50th percentile each year, with their percentage increasing from 56% in 2021 to 71% in 2024. In contrast, Grade 3 students who received special education services showed varying performance. The percentage of these students at or above the 50th percentile fluctuated from 38% in 2021 to 28% in 2022, then increased to 31% in 2023, and rose to 44% in 2024.

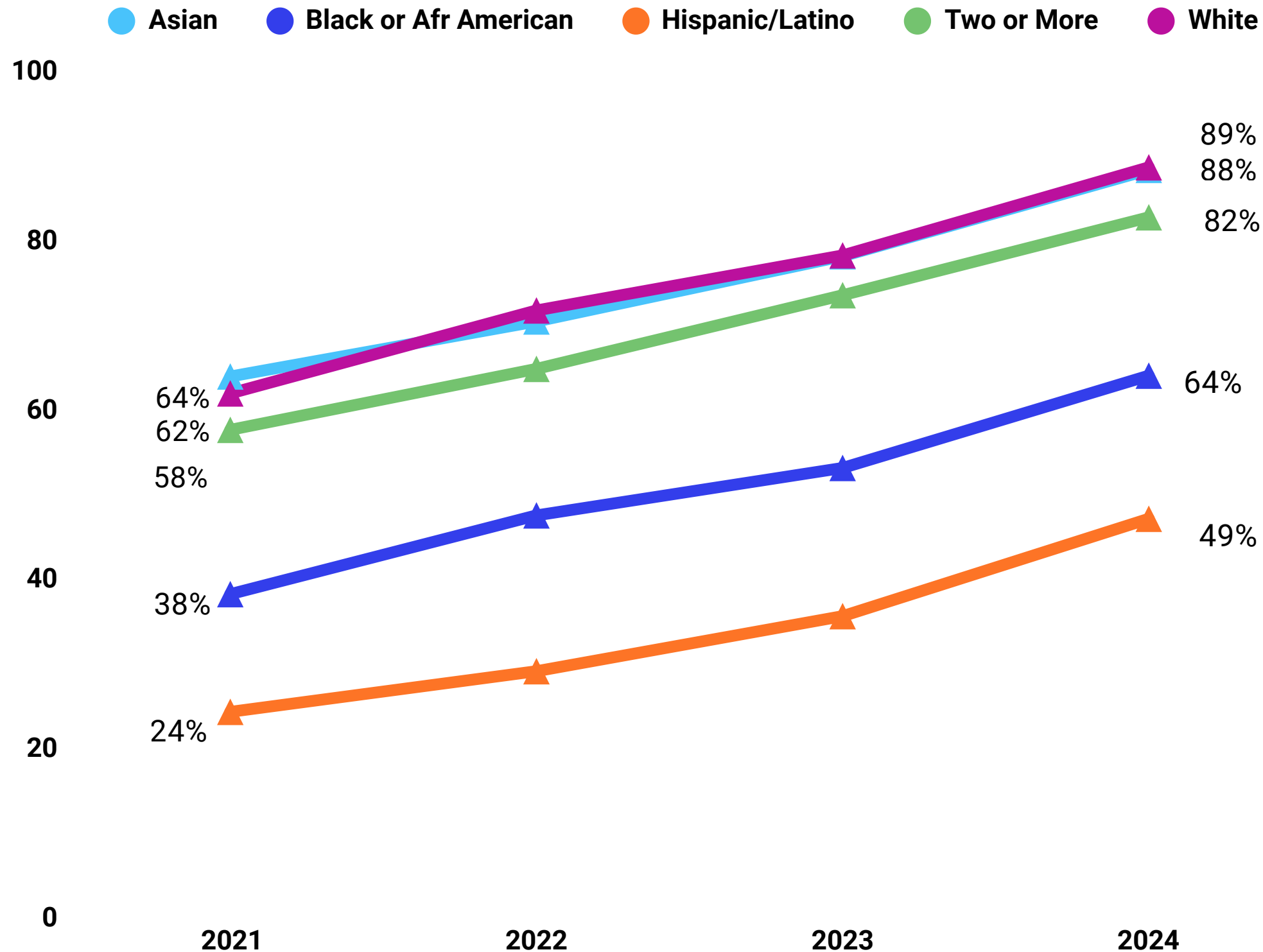
In summary, for each year studied, students in Grade 3 **not receiving services** such as FARMs, ELD, or special education consistently attained or exceeded the 50th percentile score at rates approximately two to three times higher than their peers receiving these services.



Results: Student Performance

Students in Grade 4 at or Above the 50th Percentile on Spring MAP-M

Percentage of **Students in Grade 4** in Cohort 1 Schools (N=42) Performing at or Above the 50th National Percentile by Racial/Ethnic Groups 2021 to 2024



Findings

From 2021 to 2024, similar to Grade 3, the majority of students identified as Asian, White, and Two or More Races in Grade 4 consistently performed at or above the 50th percentile on spring MAP-M.

Students identified as **Asian** showed continual improvement, with percentages increasing from 68% in 2021 to 85% in 2024.

Students identified as **White** also demonstrated consistent performance above the 50th percentile, with percentages rising from 60% in 2021 to 86% in 2024.

Students identified as of **Two or More Races** maintained performance above the 50th percentile throughout the years, with percentages increasing from 62% in 2021 to 83% in 2024.

In contrast, students identified as **Black or African American** showed varied performance, with less than half reaching above the 50th percentile from 2021 to 2023, with the highest percentage reaching 64% in 2024.

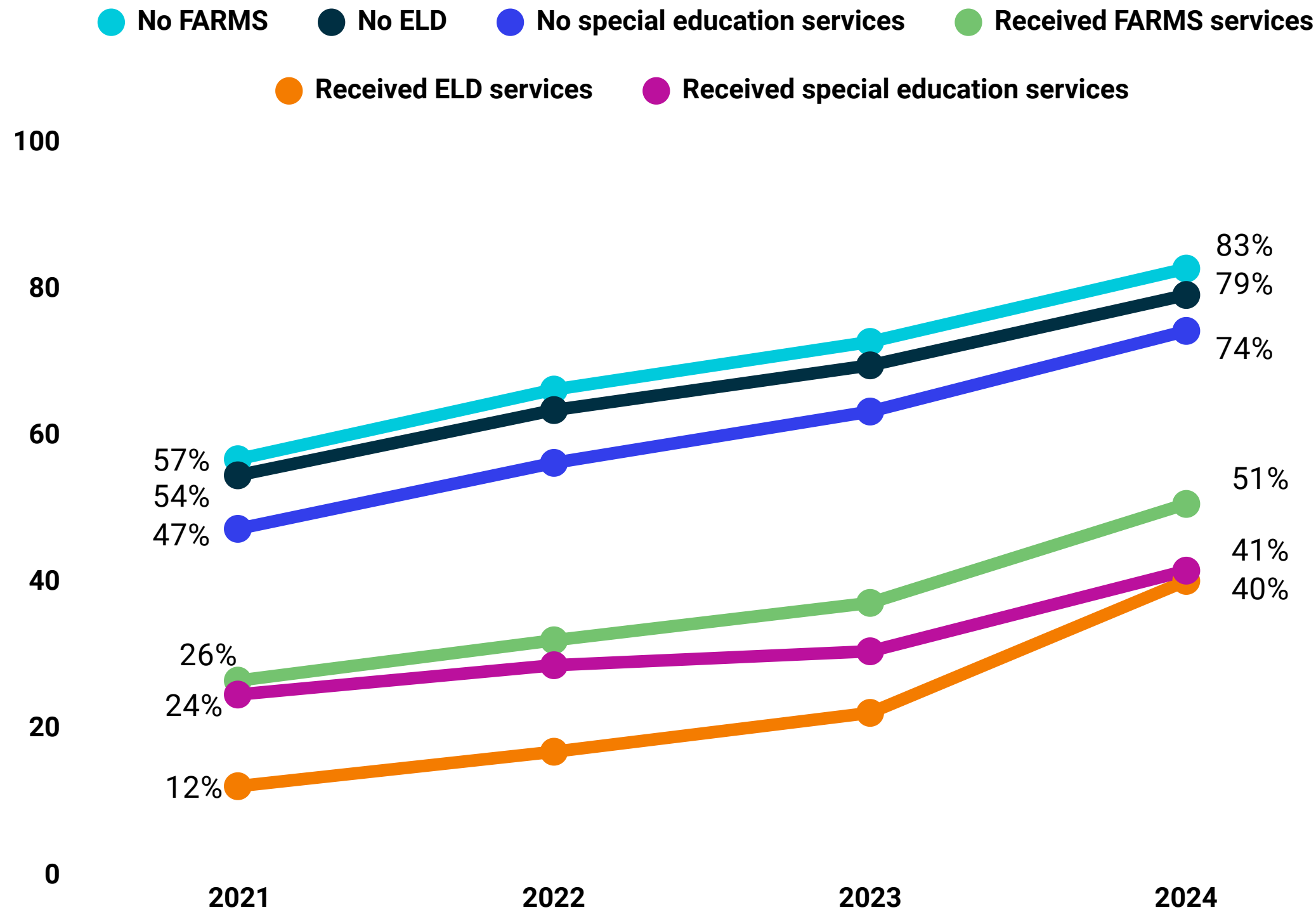
Similarly, students identified as **Hispanic/Latino** improved but generally remained below the 50th percentile threshold, with percentages increasing from 29% in 2022 to 47% in 2024.



Results: Student Performance

Students in Grade 4 at or Above the 50th Percentile on Spring MAP-M

Percentage of **Students in Grade 4** in Cohort 1 Schools (N=42) Performing at or Above the 50th National Percentile by Services Receipt Status 2021 to 2024



Findings

Students in Grade 4 showed overall enhancements in their performance across all categories from 2021 to 2024. Those who did not participate in FARMS, ELD, or special education services reached the 50th percentile or higher at rates 2 to 3 times greater than their peers who received these services.

No FARMS, ELD, or Special Education Services: Among Grade 4 students who did not receive FARMS services, the majority scored at the 50th percentile or above on the spring MAP-M assessment, with scores rising from 56% in 2021 to 82% in 2024. Likewise, students without ELD services exhibited a significant increase in performance, with the percentage achieving at or above the 50th percentile climbing from 54% in 2021 to 79% in 2024. For those not receiving special education services, the rates of scoring at or above the 50th percentile grew from 47% in 2021 to 74% in 2024.

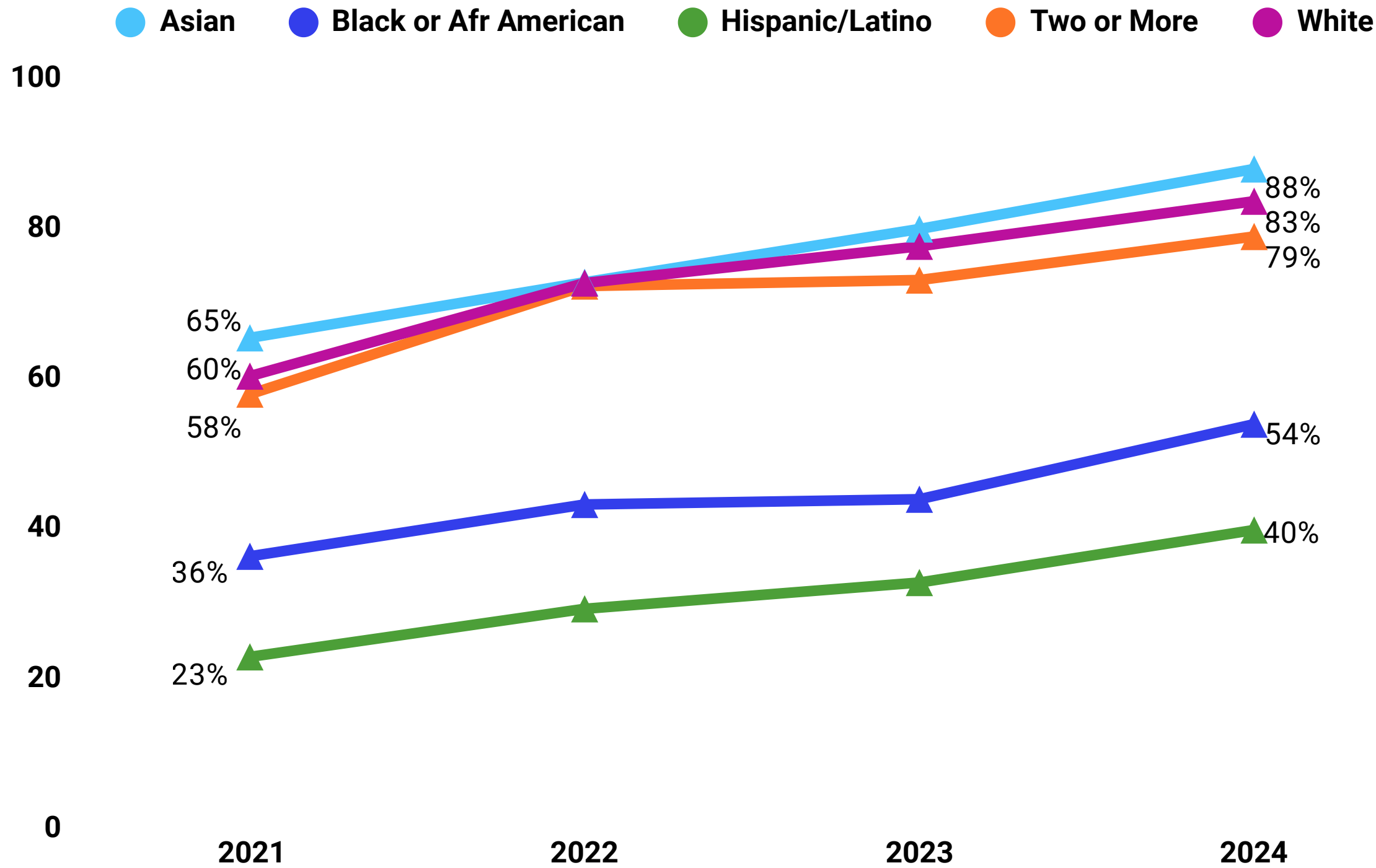
Received FARMS, ELD, or Special Education Services: Among Grade 4 students receiving FARMS services, only half or fewer reached the 50th percentile. Approximately one-third of students receiving ELD services performed at the 50th percentile or above, improving from 12% in 2021 to 40% in 2024. For students who received special education services, the data indicated that less than half reached the 50th percentile each year, with a slight increase from 24% in 2021 to 41% in 2024.



Results: Student Performance

Student in Grade 5 at or Above the 50th Percentile on Spring MAP-M

Percentage of **Students in Grade 5** in Cohort 1 Schools (N=42) Performing at or Above the 50th Percentile by Racial/Ethnic Groups 2021 to 2024



Findings

Students in Grade 5 demonstrated overall improvement in performance across all categories from 2021 to 2024. Trends show improvement across ethnic and racial groups over time. Notably, the rates of performing at the 50th percentile on the spring MAP-M for students identified as Asian, White, and Two or More Races were 2 to 3 times higher than for students identified as Black or African American and Hispanic/Latino in the same grade.

The patterns are as follows:

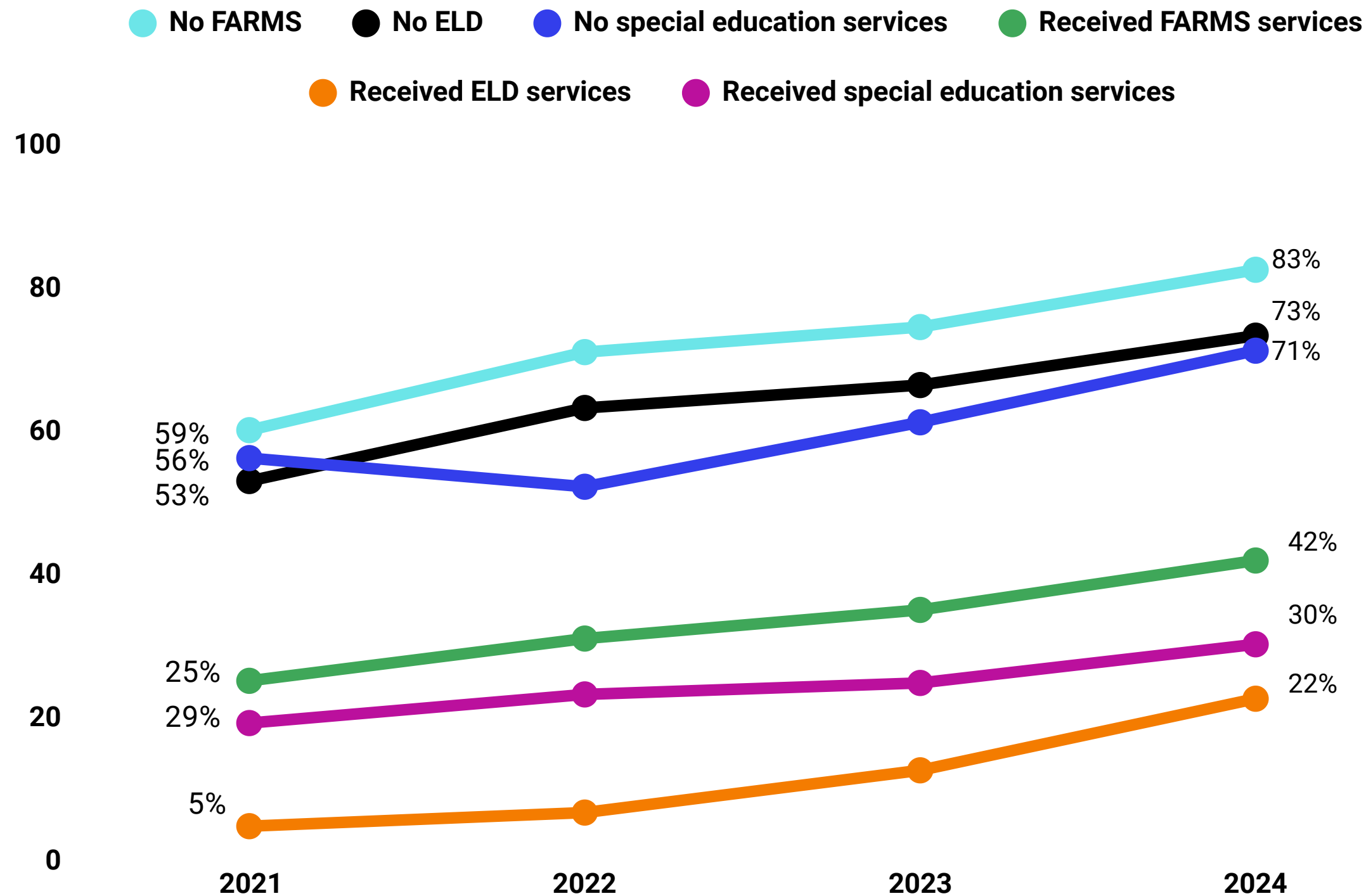
- **Asian:** The majority of students identified as Asian consistently performed above the 50th percentile for the study years, with percentages increasing from 65% in 2021 to 88% in 2024.
- **White:** The majority of students identified as White consistently performed above the 50th percentile, with percentages increasing from 60% in 2021 to 83% in 2024.
- **Two or More Races:** The majority of students identified as Two or More Races consistently performed above the 50th percentile, with percentages increasing from 58% in 2021 to 79% in 2024.
- **Black or African American:** Approximately half or less of students identified as Black or African American attained the 50th percentile for any given year from 2021 to 2024, increasing from 36% in 2021 to 54% in 2024.
- **Hispanic/Latino:** For the spring 2021 to 2024 MAP-M assessments, less than half of students identified as Hispanic/Latino attained the 50th percentile, increasing from 23% in 2021 to 40% in 2024.



Results: Student Performance

Student in Grade 5 at or Above the 50th Percentile on Spring MAP-M

Percentage of **Students in Grade 5** in Cohort 1 Schools (N=42) Performing at or Above the 50th Percentile by Services Receipt Status 2021 to 2024



Findings

Grade 5 students demonstrated overall improvement in performance across all service receipt groups from 2021 to 2024. Students who did not receive FARMs, ELD services, or had students receiving special education services who achieved the 50th percentile or above at 2 to 3 times higher rates compared to their peers who received these services.

Received FARMs, ELD, or Special Education Services:

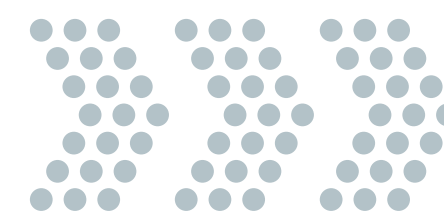
- **Received FARMs services:** Approximately one-third of students receiving FARMs services performed at or above the 50th percentile, increasing from 25% in 2021 to 42% in 2024.
- **Received ELD services:** Approximately one-fifth of students receiving EMLs services performed at or above the 50th percentile, increasing from 5% in 2021 to 22% in 2024.
- **Received special education services/had an IEP:** Less than half of students with IEPs attained the 50th percentile, during the study period, increasing from 19% in 2021 to 44% in 2024.

No FARMs, ELD, or Special Education Services:

- **No FARMs services:** The majority of students consistently performed above the 50th percentile on MAP-M, increasing from 60% in 2021 to 82% in 2024.
- **No ELD services:** The majority of students consistently performed above the 50th percentile, increasing from 53% in 2021 to 73% in 2024.
- **No special education:** The majority of students consistently performed above the 50th percentile, increasing from 56% in 2021 to 71% in 2024.



Summary of Findings



Summary of Key Findings

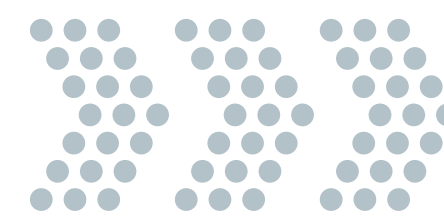
Perceptions of PLOs Related to Eureka Math. From summer 2023 to spring 2024 when they were taking the survey, staff reported varying amount of hours of reported professional learning related to Eureka Math. A total of 67% of teachers and 54% of instructional leaders reported 10 or fewer hours. In addition, 26% of teachers and 27% of instructional leaders reported between 10 and 25 hours, while 5% of teachers and 19% of instructional leaders reported more than 26 hours. More than half of teachers and instructional leaders found the PLOs offered for Eureka Math adequate (58% vs 63%) or even more than sufficient (31% vs 19%). Through a different item, when asked about their overall preparedness to implement Maryland's CCSS-based math instruction (which includes both use of curriculum tools like Eureka Math and comprehensive math instruction), only 44% of teachers reported they they felt adequately prepared (28%) or very well prepared (16%). In comparison, a majority of instructional leaders reported feeling adequately prepared (47%) or very well prepared (58%). Among PLOs offered, the majority of both teachers and instructional leaders reported attending sessions on the "Major Work of the Grade" and "Launch/Focus on Fluency." About half of the teachers and a majority of instructional leaders reported participating in the "Pre-Launch" session, while nearly half of both groups indicated they attended the "Preparation for Customization" session. Among the sessions designed specifically for instructional leaders, the majority reported attending "Hone the Concept Development," "Equip Rollout," and "Read-Write-Draw".

Perceptions and Experiences with the Content of Eureka Math Curriculum and Resources. Perceptions about the content of the Eureka Math curriculum varied among teachers and instructional leaders depending on the attribute. High agreement (over 80%) that Eureka Math included attributes specified in the RFP was observed in areas such as alignment with Maryland grade-level CCSS, presentation of grade-level objectives in an easy-to-follow format, and development of understanding in solving real-world problems. Moderate agreement (50%–79%) by both groups was observed regarding incorporation of effective research-based educational principles and distinguishing mastery from enrichment outcomes. Areas of low agreement (50% or less) included key aspects specified in the RFP: explicit support in daily lessons for English learners, offering teachers flexibility to adjust instructions if needed, and provision of tier-based interventions for students not meeting learning standards. Across most attributes, perceptions were similar between teachers and instructional leaders. Notable exceptions included higher agreement among instructional leaders (66%) compared to teachers (47%) that Eureka Math provides multiple entry points of accelerated learning pathways for advanced instruction.

Perceptions of inclusivity and Cultural Responsiveness. Perceptions about the cultural responsiveness and inclusivity of Eureka Math varied among teachers and instructional leaders depending on the dimension. Nearly all—90% of teachers and 91% of instructional leaders—agreed that the curriculum is suitable for students performing on-grade level. Over 80% of both groups reported that Eureka Math is free from biased representation of diverse groups, including ethnicities, genders, cultures, religions, orientations, and individuals with disabilities (84% and 83%, respectively). However, opinions diverged notably on other aspects. Only 56% of teachers, compared to 71% of instructional leaders, agreed that Eureka Math effectively caters to students requiring enrichment and advancement in mathematics. Very few teachers and instructional leaders concurred that Eureka Math adequately meets the needs of students receiving ELD services (40% and 39%, respectively), is suitable for students with IEPs (36% and 32%, respectively), or effectively addresses the needs of students not meeting learning standards (36% and 31%, respectively).



Summary of Findings



Summary of Key Findings

Relative Use of Eureka and non-Eureka Resources. As expected, teachers reported using Eureka Math resources 89% of the instructional time. Teachers also used self-created materials (22%) and other resources like web tools or iReady (18%). When used, non-Eureka resources were used for: 1) student enrichment (47%) most of the time or always and 2) sometimes for refreshing content for students (51%). Non-Eureka were hardly ever to refresh teacher knowledge or homework (53% and 60% never used, respectively).

Ratings of Eureka Math curriculum across key aspects specified on the RFP. Teachers and instructional leaders alike provided high ratings (7–10) consistently to some Eureka Math attributes such as being free from bias, preparing students for higher standards, and promoting mathematical fluency. No aspect received below an average of 5 or lower from teachers, whereas instructional leaders rated aspects like accessibility for EMLs (4.5) and readability (4.1) lower.

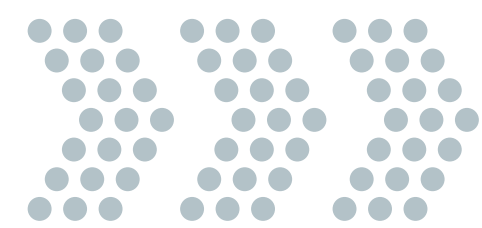
Tools for monitoring student growth and progress. The survey highlighted differing views between teachers and instructional leaders on assessment tools embedded within Eureka. While 62% of teachers agreed that assessments allowed for within-grade and within-school comparisons (55%), over 80% of instructional leaders shared these views. Regarding tailoring instruction, 61% of teachers versus 72% of instructional leaders believed assessments facilitated this. A notable difference in perceptions was about the perceived challenge level of assessments: 30% of teachers versus 73% of instructional leaders reported them to be appropriately challenging. Moreover, 42% of teachers compared to 72% of instructional leaders indicated that assessments provided a comprehensive view of student performance over time. On tracking skill development, 48% of teachers versus 56% of instructional leaders agreed that Eureka Math assessments effectively track small steps in skill development.

Performance on 2022 to 2024 state Assessments. Overall, the MCAP data showed minimal year-to-year fluctuations from 2022 to 2024. In Grade 3, over half of students (56–59%) achieved scores at or above the proficient level each year. Close to half of students in Grade 4 (43–49%) and Grade 5 (45–46%) were proficient, with Grade 4 showing a notable improvement from 43% in 2022 to 49% in 2023 and 2024. Performance varied significantly by race/ethnicity and service receipt, with students identified as Asian, White, and Two or More Races consistently achieving proficiency rates 2 to 3 times higher than their Black or African American and Hispanic/Latino peers. Furthermore, students not receiving ELD, FARMS, or special education services had proficiency rates that were 2 to 3 times higher than those of their peers who received these services.

Trends in spring MAP-M performance for cohort 1 schools. Between 2021 and 2024, there was a steady increase in the number of students in Grades 3 to 5 achieving or surpassing the 50th national percentile performance on spring MAP-M. However, the overall performance showed wide variations when analyzed by racial/ethnic groups and special services status. Each year and across students in Grades 3, 4, and 5, students identified as White, Asian students, and Two or more races, along with those not receiving FARMS, ELD, or special education services, consistently reached the 50th percentile on the spring MAP-M at rates two to three times higher than their peers identified as Black or African American, Hispanic/Latino, or those receiving ELD, FARMS, or special education services.



Recommendations



While the Eureka Math curriculum used in MCPS meets many of the criteria outlined in RFP Number 4478.1, this study identified shortcomings in four criteria stipulated on the RFP. These include suitability for students not performing at grade level or receiving ELD or special education services, enrichment opportunities, and the effectiveness of assessment tools and usefulness of assessment results. The following recommendations are based on these findings.

1

Provide instructional resources within the core PreK-5 math curriculum that address a wide range of student skill levels.

Feedback on Eureka Math confirmed its effectiveness for students performing at grade level, but many teachers pointed out that Eureka Math may be a great program, but did not adequately meet the needs of many of their students. The staff also pointed out and this limited their ability to provide optimal instructional opportunities for those who are struggling, receiving English Language Development (ELD) or special education services, or needing enrichment. This shortcoming restricts the ability to create equitable learning experiences and is linked to the fact that many of these students did not reach proficiency levels aligned with grade-level standards by the end of each school year. When choosing future curriculum materials, it is essential to prioritize options that offer comprehensive, evidence-based support for all learners. Select vendors that can demonstrate how their resources provide Multi-Tiered Instructional Supports (Tiers 1, 2, and 3), ensuring targeted interventions for struggling students and enrichment for advanced learners. Additionally, the curriculum should include integrated scaffolding for students in ELD programs and those receiving special education services. By opting for a curriculum that meets a wide range of learning needs, schools can ensure equitable access to grade-level content and enhance outcomes for all students.

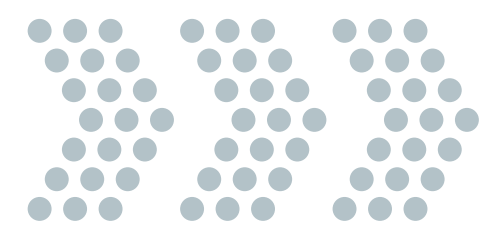
2

Integrate monitoring tools that teachers find beneficial and can use to guide their instructional choices.

Only 30% of teachers felt that assessments integrated with Eureka Math were suitably challenging for their students. Additionally, fewer than half of the teachers and just over half of the leaders agreed that assessment results reflect small increments of student growth or provide a comprehensive view of progress over time. As a result, the current tools for tracking student growth and identifying necessary support were seen as inadequate, limiting effective lesson planning. To address this, the core curriculum could integrate more effective tools that align with the pacing and MCPS instructional calendar, enabling timely, differentiated interventions and improving student learning outcomes. It is also important to consider tools that offer adaptable assessment formats to accommodate various learning styles and proficiency levels..



Recommendations (Cont)



3

Incorporate instructional materials that explicitly offer enrichment activities for advanced learners.

The findings in this study revealed a notable difference in perceptions regarding the availability of enrichment opportunities in Eureka Math between teachers and instructional leaders. While only 47% of teachers reported that there are various starting points and accelerated learning paths available for enrichment, 66% of instructional leaders expressed a more favorable view of these resources. Noting that research indicates that the effectiveness of Eureka Math on student learning is shaped by the school's environment underscores the necessity for curricula that provide consistent guidelines and support for all students, instead of relying on subjective choices made by individual teachers or schools (Johns Hopkins, 2023). The findings highlighted the critical need to prioritize curricula that explicitly offer comprehensive enrichment materials and clear pathways for advanced learners. This approach will improve instruction for students working above grade level or needing extra challenges, reduce teachers' reliance on outside resources, and ensure equitable opportunities for all students to grow and succeed in mathematics.

4

Offer ongoing and varied professional learning opportunities (PLOs) on curriculum content and the implementation of curriculum standards.

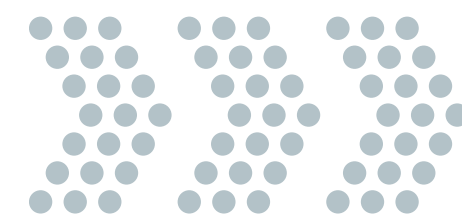
While staff feedback indicated that the PLOs related to Eureka Math were satisfactory, majority of teachers also reported feeling unprepared to effectively provide standards-based mathematics instruction. Therefore, ongoing, sufficient, and targeted PLOs are crucial for improving teachers' content knowledge in mathematics and increasing their confidence in implementing a standards-based curriculum. While having a strong curriculum is important, it is not enough on its own to elevate the academic performance of all student groups, and incorrect use of instructional tools can impede effective differentiation and support for diverse learners (Smith et al., 2020; Johnson & Brown, 2019). Research indicates that even with a curriculum aligned to state standards, focused professional development is essential for teachers to build confidence, enhance their teaching skills, and deepen their conceptual understanding of mathematics (Institute for Educational Studies [IES], 2016). Furthermore, the successful implementation of standardized curricula, such as Eureka Math, and the resulting student learning outcomes are significantly influenced by school-specific factors, including staff capacity (Hopkins, 2023; IES, 2016). To address these challenges, conducting a needs assessment for both students and staff will illuminate the barriers to optimal mathematics instruction. By identifying the difficulties teachers encounter, understanding their challenges, and collecting suggestions for improvement, MCPS can enhance PLOs and improve guidelines for the effective use of instructional tools that benefit all students.



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MAINTAIN CURRENT IMPLEMENTATION FOR ONE YEAR

The study revealed that while the Eureka Math curriculum is praised for its rigor, coherence, and alignment with standards, it lacks the explicit supports and resources essential for students with disabilities, Emergent Multilingual Learners (EMLs), and advanced learners, as specified in the RFP. Additional observations included: insufficient enrichment and acceleration opportunities, as well as the absence of crucial tools for teachers to customize instruction to meet a diverse array of student needs. Feedback from staff also highlighted that the current assessment tools are ineffective in measuring student success in a way that supports instructional improvement. In particular, four-year trends of student achievement district and state-level performance data showed that the performance of the groups of students whose needs are inadequately addressed within the Eureka Math framework lags behind that of the grade-level peers. To prevent further limitations to new cohorts of students, a critical first step is ensuring that the curriculum, which fundamentally impacts what students learn, is designed to meet their needs adequately.

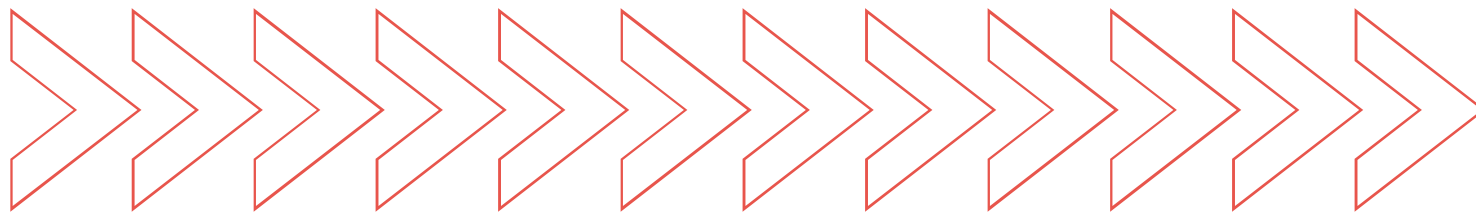
Through the RFP, MCPS sought to identify a curriculum that is both challenging and aligned with state standards while providing equitable learning opportunities and success for every student. The study's findings suggest that the current curriculum does not fulfill all the essential criteria to foster an environment where every student can learn and excel in mathematics.

Therefore, recognizing the limitations of the Pre-K Eureka Math curriculum and that it does not meet several critical requirements outlined in the RFP, the continued and future use of the current version of the Eureka Math curriculum, without enhancements, would not be beneficial for MCPS or support the strategic plan goals of academic excellence.

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Examining Fidelity of Implementation of the Math Block: Structure and Eureka Math Lesson Delivery in Pre-K-5 Classrooms 2023–2024

November 2024



Prepared by:

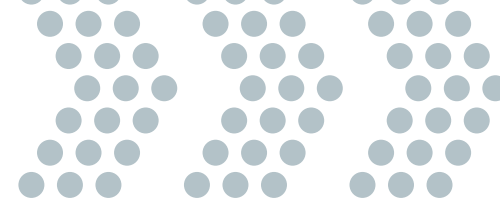
Nyambura Susan Maina, Ph.D.

Shared Accountability

Applied Research and Evaluation









EUREKA MATH[®]





EUREKA MATH[®]



	Executive Summary.....	1
	Introduction.....	3
	Program Description.....	4
	Evaluation Scope.....	5
	Methods.....	6
	Results	8
	Conclusion.....	36
	Recommendations.....	38



Background & Study Purpose

In 2019, Montgomery County Public Schools (MCPS) rolled out the Eureka Math curriculum to 42 schools, expanding to 95 additional schools, with full implementation expected in all elementary schools by fall 2020. This study evaluated the fidelity of implementation of the math block, examining the structure and use of the block, extent of delivery of Eureka Math lessons as designed, and identifying successful elements and areas for improvement to enhance the Pre-K-5 math instructional program.

Methodology

This study used a mixed methods approach, including a school-level survey about the math block, observation of 108 lessons in Grades 1, 3, and 5 classrooms, and surveys of a random sample of Pre-K to 5 teachers, math instructional leaders (central office staff, staff development teachers/math representatives, English Language Development (ELD), and special education teachers), for a response rate of 34% response rate for teachers (N=363) and 55% for instructional leaders (249).

Key Findings:

Math Block

Structure of the math block. Schools generally allotted the recommended time for math blocks of 60–75 minutes per lesson, with Pre-K averaging 40 minutes and Grades 1-5 averaging 78–79 minutes, with medians around 75 minutes across grades. About 40% of schools scheduled math blocks in the afternoon, typically using a single block per grade level, with 20% using two blocks. Most schools (55%) reported that they did not departmentalize mathematics instruction. Among those that did, 51% departmentalized in Grade 5 and 39% in Grade 4. Math interventions (Tier 3), scheduled outside the math block, averaged 30 minutes and occurred three to five times per week.

Math Lessons

Delivery of math lessons. In the observed classrooms, key aspects of lesson setup—including class schedules, learning goals, and expectations—were consistently evident, in over 80% of classrooms: class schedules (86–89%), learning goals (93–97%), and class expectations (83–94%).

In the 103 classrooms visited, the implementation of components of Eureka Math lessons varied by grade. High fidelity ($\geq 75\%$) of implementation was observed for Fluency Practice and Concept Development: Grade 1 (98% and 100%), Grade 3 (94% and 100%), and Grade 5 (80% and 100%). The Application Problem component was implemented in 81% of Grade 1, 94% of Grade 3, and 74% of Grade 5 classrooms. The Debrief and Exit Ticket components were implemented with lower frequency (55-65%).



Key Findings:

While most of the Eureka Math lesson components were delivered in the majority of lessons, the extent of implementation of actions expected of teachers and students within each component varied by grade. Nearly all the actions expected of teachers and students during Concept Development and Application Problems were consistently observed. However, some actions within Fluency Practice (Sprint), Debrief, and Exit Tickets were seen in fewer than half of the lessons. Also, enrichment activities during Application Problems were observed in fewer than one-third of classrooms, regardless of grade.

Math Lessons

Adherence to Time-bound expectations. Eureka Math lessons are designed with embedded content and activities to differentiate instruction, requiring teachers to make strategic decisions to meet the lesson objectives within a 45 to 60-minute timeframe. Data indicated that on average, the lessons adhered to the recommended 60 minutes and most lesson components were completed within the target time. However, some segments occasionally exceeded expected time, or some lessons skipped some activities expected of the teacher or students.

Student engagement and instructional routines. Classroom observations in Grades 1, 3, and 5 revealed varying adherence to instructional routines and engagement strategies. While 68–82% of classrooms effectively maximized student engagement and connected new learning to prior knowledge, fewer classrooms implemented discourse and peer discussion routines, with less than half of Grade 1 and Grade 5 classrooms using these practices. Effective routines linking new learning to prior knowledge and maintaining engagement were observed in 75% of Grade 1 and Grade 3 classrooms. Peer discussions were effectively utilized in 67% of Grade 3 classrooms, and explicit classroom discourse was evident in 50% of Grade 5 classrooms. Students were observed displaying joy of learning in 78% of Grade 1, 70% of Grade 3, and 65% of Grade 5 classrooms.

Staff Surveys

Successes and challenges. Responses from staff surveys highlighted many successful aspects of the elementary math instructional program in enhancing student mathematical learning through a structured (Eureka Math) curriculum, engaging instructional strategies, and strong collaboration among staff. The findings also identified common instructional needs of students particularly in solving multi-step problems, constructing viable arguments, and gaps in foundational skills. Moreover, over 75% of instructional leaders reported facing challenges to achieving their instructional goals: addressing wide range of instructional needs, learning gaps, completing lessons on time, supporting Emergent Multilingual Learners (EMLs), implementing Individualized Educational Programs (IEPs), and sustaining student motivation.



Key Findings:

Staff Surveys

The survey results revealed multiple opportunities for improving math instruction and professional learning opportunities (PLOs). Staff provided open-ended feedback that outlined several actionable enhancements for the elementary math program. Key recommendations included increasing the availability of resources, ensuring unfettered access to *iReady Math*, and supplying additional materials. There was a strong emphasis on reinforcing foundational skills in addition, subtraction, and place value while adopting a child-centered, hands-on curriculum to better engage students.

The survey also highlighted the need for a well-organized intervention program to increase support for a range of learning needs. Involving teachers in the evaluation of math programs was suggested to promote flexibility and autonomy in lesson planning. Respondents stressed the importance of enhancing differentiation and intervention strategies, particularly for students facing significant learning challenges. There was also a call to optimize the use of curriculum resources, especially Eureka Math, and to improve mathematical discourse and student participation during instruction.

Future PLO recommendations included: 1) refining instructional strategies to foster student independence and engagement; 2) focusing on vertical and conceptual instruction to clarify content progression; 3) addressing a broad spectrum of learning needs through differentiation and customization; and 4) enhancing curriculum planning and implementation to ensure fidelity in resource usage and effectively tackle learning gaps.

Conclusion

While all schools allocated sufficient time for math lessons and utilized the Eureka Math curriculum as expected in most lessons, the delivery of some components of Eureka Math lessons varied across lesson components. Staff surveys highlighted that the curriculum's rapid pace, along with scheduling and staffing challenges, affected the delivery and consistency of support for students needing interventions. Enhancing the Pre-K-5 math program would involve building on successful elements and addressing identified challenges. As such, to improve the effectiveness of math instruction, staff emphasized the need for targeted professional development, a focus on strengthening foundational skills, and enhanced differentiation for student with wide range of needs. Ensuring consistent and efficient use of instructional time and curriculum, can maximize the impact of the elementary math instructional program and drive improvements in student outcomes.

Introduction and Conceptual Framework

Montgomery County Public Schools (MCPS) initiated a districtwide adoption of the Eureka Math curriculum, beginning with 42 elementary schools in 2019 and expanding to the remaining schools by fall 2020. This study investigated the fidelity of implementation of the math block across these schools, focusing on the extent to which the curriculum has been enacted as intended, and areas needing improvement.

To thoroughly evaluate the fidelity of implementation of the Math Block in general and the Eureka Math curriculum in particular, this study utilized a multi-method approach, incorporating direct observations of math lessons and feedback from stakeholders. Additionally, the study sought to address concerns from stakeholders regarding students' performance on state and district assessments. These concerns were underscored by district-level data showing that less than half of the students met state benchmarks, with notable performance disparities among different student groups. Consequently, obtaining staff feedback on both successful practices and challenges was essential for accurately assessing the fidelity of implementation of the math instructional program.

Fidelity of implementation—the degree to which educational programs are delivered as intended—is crucial for linking curriculum to student outcomes. Without evidence that key components of a program are consistently implemented, it is difficult to meaningfully connect student performance to the instruction they receive (Mowbray et al., 2003; O'Donnell, 2008). To evaluate the fidelity of the math block implementation in Pre-K-5 classrooms, we used Look Fors based on the Eureka Math Implementation Support Tool (Great Minds, 2024a; MCPS, 2024a) and the MCPS Multi-Tiered System of Support (MTSS) guidelines (MCPS, 2024b). The MTSS guidelines outline a tiered approach to elementary mathematics instruction:

Tier 1: All students receive grade level instruction using Eureka Math as the core curriculum.

Tier 2: Targeted support (Tier 2) is flexible and responsive, tailored to student needs as identified through formative assessments. Teachers choose strategies from the Eureka Math curriculum, to provide support either within or outside the regular math block as needed.

Tier 3: A small number of students may require intensive Tier 3 intervention. Tier 3 intensive intervention occurs outside the math block. MCPS recommends the use of iReady Math paired with Eureka core instruction to provide intensive Tier 3 intervention (MCPS, 2024b).

The Eureka Math Implementation Support Tool provides a structured framework to help schools deliver mathematics instruction for all students. It focuses on three main areas: Core Implementation Actions, Adaptive Implementation Actions, and Student Expectations (Great Minds, 2024a).



Program Description

Eureka Math curriculum is used in all Pre-K to Grade 5 classrooms. A typical Eureka Math lesson consists of four components, each allocated a specific time duration, ensuring consistency across grade levels. Teachers are encouraged to follow a **time-bound**, rather than task bound, approach, focusing on delivering each segment within the allocated timeframe. Lessons in "A Story of Units" curriculum are typically 60 minutes long, except for Pre-K (25 minutes) and Kindergarten (50 minutes) lessons. The recommended pace is one lesson per day for 180 days, with flexibility for adjustments based on student data to optimize learning outcomes. Teachers are expected to make instructional decisions based on provided materials to meet lesson objectives within the 45-60 minute timeframe. It is expected that teachers use student data to adjust pacing, omit or consolidate lessons as necessary (Greatminds, 2024).

Program Goals



Along with the Eureka Curriculum, the elementary math program includes the Elementary Math MTSS Guidance document. The MTSS guidelines provide teachers with clear guidelines and considerations on advancing students through different tiers of instruction and support in elementary mathematics.

Tier 1: This level offers comprehensive core instruction where all students receive grade level lessons following the Eureka Math curriculum (MCPS, 2024).

Tier 2 targeted support: Tier 2 comprises flexible instruction and tailored to individual student needs. Teachers choose strategies and materials from the Eureka Math curriculum based on formative assessment and other data. Tier 2 support can be integrated within or outside the math block, encompassing explicit instruction, small group, foundational fluency exercises, or extra focus on concepts using problems from the concept development phase.

Tier 3: Some students may need intensive Tier 3 intervention, which is provided outside the regular math block. MCPS recommends the use of iReady Math paired with Eureka core instruction to provide intensive Tier 3 intervention (MCPS, 2024b).

Eureka Math Lesson Components

1. **Fluency Practice (10 minutes):** Activities such as Sprint, Whiteboard Exchange, Counting, and Choral Response. Sprint fluency activities in Eureka Math Practice build speed and accuracy with already acquired skills.
2. **Application Problem (6 minutes):** An introductory problem contextualizing the mathematical concepts in a lesson.
3. **Concept Development (25 minutes):** The core of the lesson, introducing and exploring new mathematical concepts; part of lesson focused on new learning.
4. **Problem Set (10 minutes):** A series of problems reinforcing the concepts in the lesson. usually completed within or after concept development.
5. **Student Debrief & Exit Ticket:** A reflection segment where students discuss their understanding and complete an exit ticket for assessment.
6. **Enriched Learning:** Enhancing learning as needed, following the *Providing Enriched Learning in Elementary Mathematics guidance* (MCPS, 2024c).
7. **Honing the lesson:** When teachers make decisions about which problems and activities to use, they are honing the lesson to meet the needs of their students.

Instructional Routines. As part of the Concept Development or the Student Debrief, teachers engage students in discourse using instructional routines. In Eureka Math, these routines are used to engage students and encourage discourse.



Cost Structure

Costs Associated with the Elementary Math Program

Eureka Math Annual Cost

\$3,500,000*

Source. Curriculum Update, Montgomery County Board of Education, November 7, 2024.



Evaluation Scope

The evaluation focused on examining the status of implementation of math instruction:

1. Structure and use of the math block
2. Fidelity of implementation of Eureka Math lessons
3. Successful aspects and areas needing improvement

Purpose of Evaluation



Examine how the Math Block is structured.



Examine fidelity of implementation of Eureka Math lessons.



Identify areas for improvement in the Pre-K to 5 math instructional program.

Evaluation Questions

1

How do schools structure and utilize their math block time?

2

To what extent were Eureka Math lessons in the study sample implemented as designed?

3

Are there any structural and functional changes needed to improve mathematics instruction?



A formative, mixed methods approach was employed to assess fidelity of implementation of the math block. Data were gathered through the school-level Math Block survey/inventory, observations of lessons in Grades 1, 3, and 5, and a staff survey.

Examining Implementation



Data & Measures



Staff Surveys

Fidelity of implementation was gauged by:

- **School-level Inventory of Math Block Use:** A brief survey was designed to collect information on the Math Block (Prekindergarten through Grade 5) from all elementary schools schools (N=139). This survey was sent to school mathematics representatives or staff development teachers and elicited information on the start and end times for math lessons and details on math intervention programs (e.g., iReady Math) offering explicit Tier 3 support for students identified as needing additional support.
- **Staff Feedback:** To complement classroom observations, a random sample of Pre-K-5 teachers and instructional leaders (central office, staff development teachers/math representatives, English Language Development (ELD), and special education teachers) were invited to complete the staff survey. Survey responses were collected on successful aspects, challenges to optimal implementation, and areas for improvement in elementary math instruction.



K-5 Eureka Math Observation Protocol

The **K-5 Eureka Math Observation Protocol** was developed by synthesizing information from multiple sources, such as the Look-Fors in the Eureka Math Implementation Tool (Great Minds, 2019), the Eureka Math inSync Instructional Guide (Great Minds, 2020), and the Elementary Math MTSS Guidance (MCPS, 2024).

Purpose:

The observation protocol centered on a specific lesson or mathematics block as the primary unit of analysis. The observation protocol was designed to record the activities expected of teachers and students during each segment of a Eureka Math lesson, that occur during a lesson. It also notes any variations in instructional practices within each grade, across different grade levels, and in various school settings. Components of the K-5 Eureka Math Observation Protocol include:

Part 1: Background Information. Details relevant to the observed lesson: grade level, date, duration of the lesson, class size, module/lesson/unit, and staff present in the classroom with the teacher of record.

Part 2: Key Components of a Eureka Math Lesson. Structured to mirror the components of a typical Eureka Math Lesson, sectioned by components of Eureka Math lesson and specific indicators. These components include: 1) Fluency Practice, 2) Application Problem, 3) Concept Development, 4) Problem Set, 5) Student Debrief & Exit Ticket, and 6) Tier 3 intervention (where applicable).

Part 3: Overview of Lesson. A summary of what was observed during the entire lesson and duration of each component.



Data analysis procedures varied by question and data source.

Classroom Observations (cont)



Sample

A random sample of 40 schools, which constitutes 26% of the total 139 schools, was selected based on several key characteristics. These factors included enrollment size, the percentage of students eligible for Free and Reduced-price Meals (FARMS), English Language Development (ELD) status, racial and ethnic composition, school type (specifically K–2, K–5, or Grades 3–5), and proficiency rates from the 2023 Maryland Comprehensive Assessment Program (MCAP).

Data Collection Process in Mathematics Classrooms:

- Math lessons in Grades 1, 3, and 5 were observed from March 14 to April 22, 2024.
- Data was collected by a team of 6 retired MCPS teachers and the researcher.
 - The data collection team was trained by the researcher and elementary math instructional specialist.
 - Training covered an overview of Eureka Math, the observation protocol, project goals, data collection procedures, and data entry.
 - Ongoing support was provided by the researcher and the elementary math instructional specialist throughout the data collection period.
- Observers were required to be present for the entire math lesson.
- 103 observations out of the targeted 108 (90%) were completed in Grades 1, 3, and 5 classes.

Analytical Procedures



Analysis

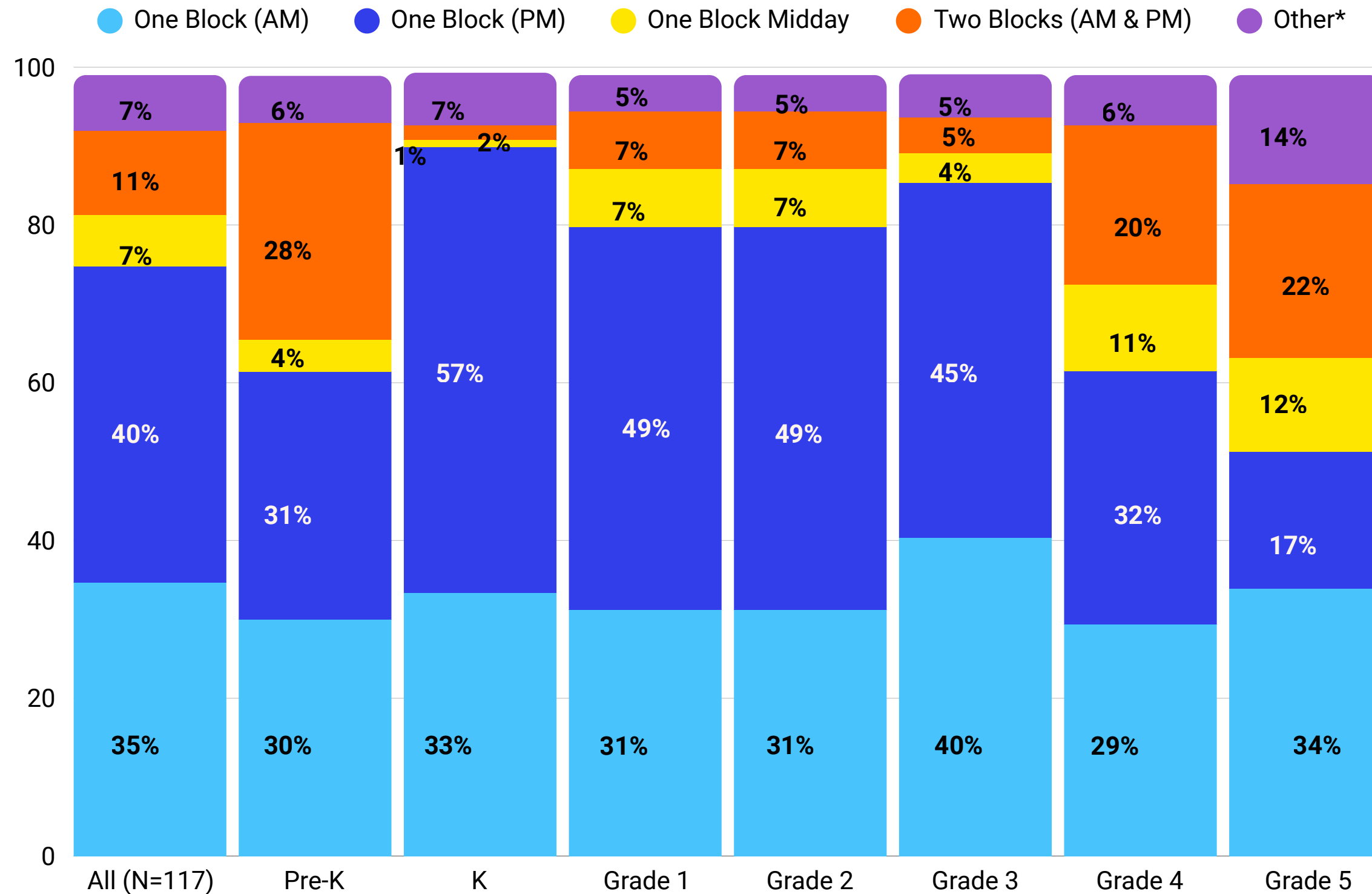
- For **question 1**, school-level data on the scheduling and duration of the math block and Tier 3 interventions were summarized using descriptive statistics. Open-ended comments regarding the scheduling of math instruction and implementation of interventions were analyzed and categorized into themes.
- For **question 2**, the unit of observation was an individual Eureka Math lesson. Descriptive summary statistics were computed for each lesson component, categorized by grade level. This included:
 - Percentage of classrooms where each component was observed.
 - Percentage of classrooms where actions expected of teachers and students were observed.
 - Level of student participation during each component.
 - Overview of evidence for routines and student engagement.
- Descriptive statistics also were generated for each survey item, addressing **question 3**. Where applicable, data for teachers and instructional specialists were presented side-by-side. Open ended comments on successful practices and areas needing improvement were summarized into themes, and with only themes that received at least 10 responses were reported.



Results: Math Block

Scheduling of Math Blocks by Grade

Percent of Schools Reporting When Math Block was Scheduled by Grade



Other: Times that straddle morning and afternoon or split block.



Findings

Data from schools showed a variety of scheduling structures for math blocks, with 75% of schools reporting one block either in the afternoon (40%) or morning (35%).

- Kindergarten: The majority of schools scheduled K math blocks in the afternoon (57%), with approximately one third in the morning (32%).
- Grades 1 and 2: Across schools, both grades followed a similar trend, with afternoon sessions being more common (49%) than morning sessions (31%).
- Grade 3: There was an even distribution with 40% in the morning and 45% scheduling the Grade 3 math blocks in the afternoon. The rest of the schools had their Grade 3 schedules divided into different combinations of two blocks (midday and morning; midday and afternoon).
- Grade 4: Displayed a balanced split between morning (29%) and afternoon (32%) sessions for single blocks. A notable percentage of schools had two blocks for grade 4 students, scheduled in both the morning and afternoon (20%).
- Grade 5: More schools had grade 5 math classes in the morning (34%) than in the afternoon (17%). About one fifth reported students had two blocks scheduled in the morning and afternoon (22%).



Results: Math Block

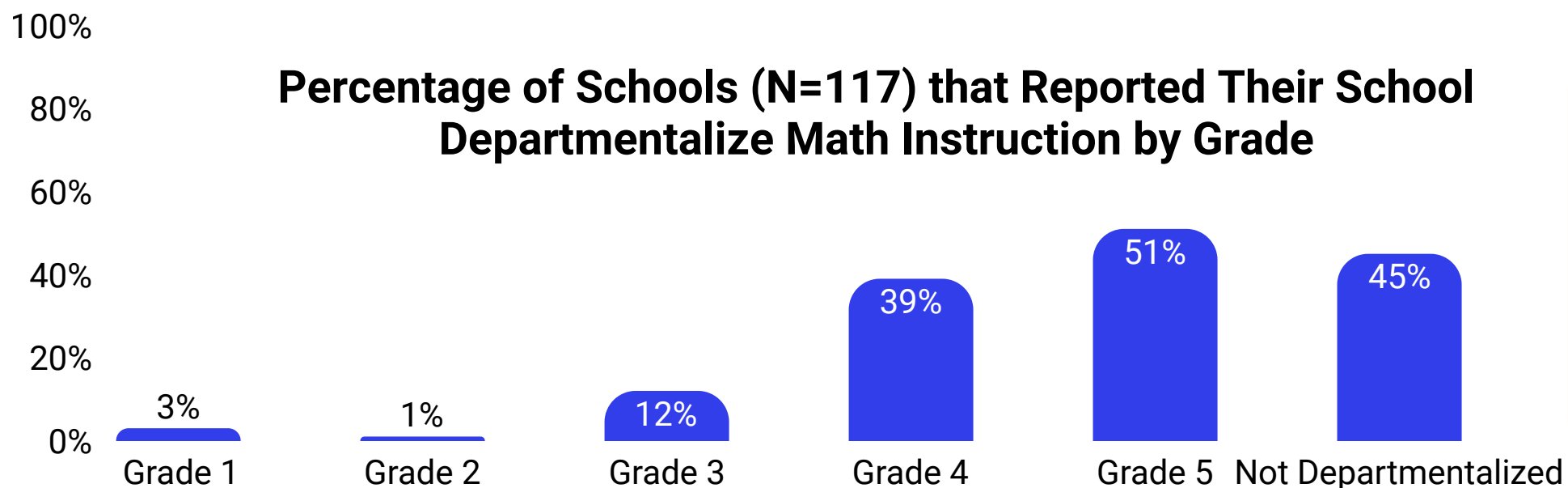
Average Time Allotted for Math Lessons and Extent of Departmentalization

Average Length (Minutes) Allotted to Math Block by Grade

Grade	Number of Schools	Mean	Std. Deviation	Median*	Minimum	Maximum
Pre-K	43	40.2	20.3	30	15	105
Kindergarten	91	65.5	9.9	60	30	95
Grade 1	88	74.7	11.4	75	25	105
Grade 2	89	76.1	9.6	75	45	105
Grade 3	88	77.9	9.8	75	45	100
Grade 4	75	78.5	7.9	75	60	100
Grade 5	88	78.6	9.1	75	60	110

*Note. The median is the middle value in a list of numbers arranged in order. It divides the dataset into two equal halves: one half of the values is below the median, and the other half is above it.

Percentage of Schools (N=117) that Reported Their School Departmentalize Math Instruction by Grade



Findings

The time allotted for the math block ranged from 30 minutes in prekindergarten to 66 to 79 minutes in higher grades and were in the recommended range of 60 to 75 minutes.

- Prekindergarten: Average of 40 minutes (range: 15 to 105 minutes, median: 30 minutes)
- Kindergarten: Average of 66 minutes (range: 30 to 95 minutes, median: 60 minutes)
- Grade 1: Average of 75 minutes (range: 25 to 105 minutes, median: 75 minutes)
- Grade 2: Average of 76 minutes (range: 45 to 105 minutes, median: 75 minutes)
- Grades 3 to 5: Averages between 78 and 79 minutes, with ranges from 45 to 110 minutes. The median duration was consistently 75 minutes.

Departmentalization. The practice where students have different teachers for various subjects, was uncommon in early grades. Less than 1% of Pre-K and Kindergarten, 3% of Grade 1, and 1% of Grade 2, and 12% of Grade 3 classes were departmentalized for math.

- About 39% of schools reported that Grade 4 and 51% of Grade 5 classes at their school were departmentalized for math.
- Notably, close to one half of the schools (45%) reported they do not departmentalize for math across any grade level.



Results: Math Block

Comments About Scheduling for Mathematics

Illustrative Comments About Scheduling for Math Lessons

Math representatives reported ...

“Grade 4 has 3 separate intervention blocks due to provider availability and number of students.”

“K through Grade 5 also have a math FIT (focus intervention time) three times per week.”

“Grades 4 and 5 departmentalize and have to 3-4 blocks.”

“Grade 3 has a special in the middle of the math block, so they do 60 before and 30 after (with intervention time built in there too).”

“Grade 4 has a longer block on Wednesdays, adding an extra 20 minutes. Grade 5 has two math blocks because teachers are fully departmentalized.”

“Pre-K math is split into two blocks (one 45 minutes and one 15 minutes) because of lunch and recess.”

“Grade 3 math is interrupted with specials; their entire math block is 65 minutes. Grade 3 math block is split because of specials.”

“Start and end-times are different in Grades 3, 4 & 5 based on which math level.”

“Because our teams have 6 to 7 classes at each grade level, we have rolling schedules so not all classes use the same block times.”



Findings

Through open-ended comments, staff members from 40 schools shared feedback on the organization of math instruction, shedding light on its implementation across different grade levels. Their open-ended comments elaborated on the following aspects that explain the variations in time allocated to the math block:

Target length of lessons, variations, and disruptions.

Comments indicated that most grades adhere to 60-minute math lessons, though some integrate Focus Intervention Time (FIT) on specific days. Grades 3-5 often experience interruptions from specials, which shortens instructional time. Pre-K and kindergarten have shorter math blocks. In Grade 3, split blocks are used to manage specials, while some schools departmentalize grades 4 and 5, leading to 3 to 4 separate math instruction blocks.

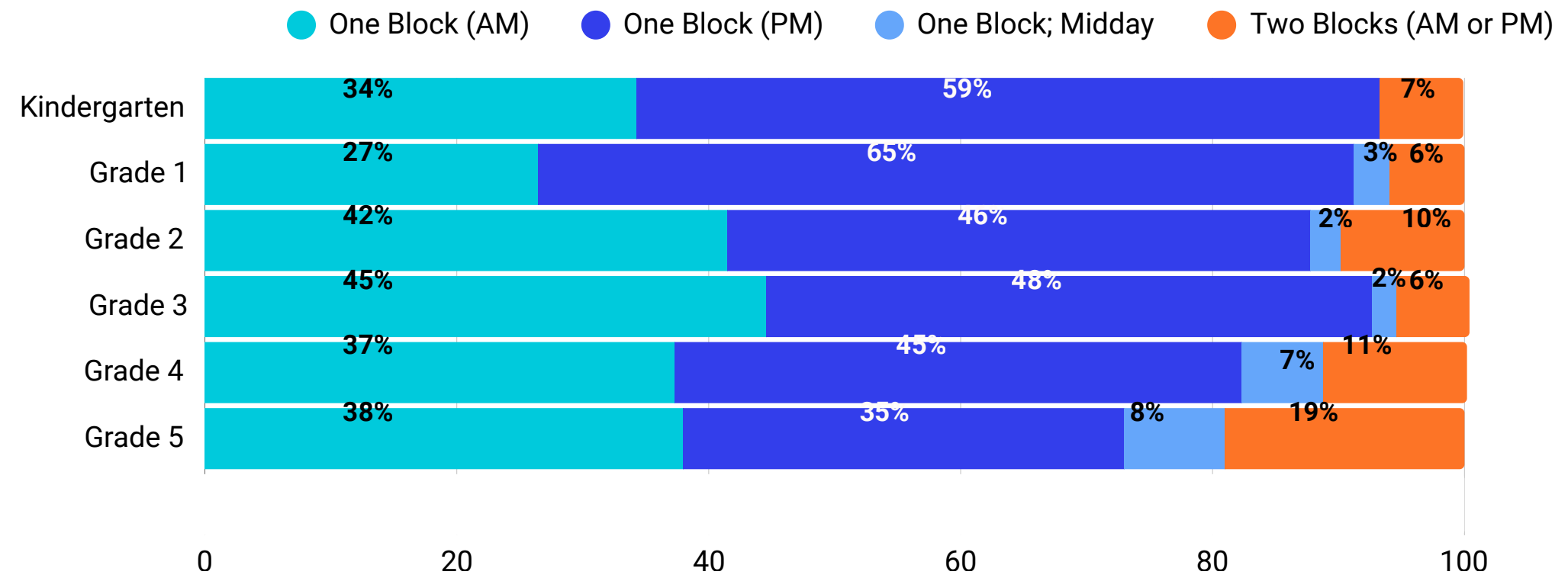
Rotating and adaptable schedules: Some schools reported they implement rotating schedules to manage various specials and interventions and unique settings such as the Two-Way Immersion (TWI) model, where math instruction alternates between English and Spanish or the Primary Years Program (PYP) that does not use a separate math block as such...



Results: Math Block

Scheduling for Math Intervention (Tier 3) Support

Scheduling of Tier 3 Intervention by Grade



Average Length (Minutes) Allocated to Tier 3 Interventions

	N	Mean	Median*	Minimum	Maximum
Kindergarten	12	27.5	27.5	20	45
Grade 1	16	27.8	30.0	20	45
Grade 2	21	29.5	30.0	20	60
Grade 3	20	29.8	30.0	20	60
Grade 4	21	30.0	30.0	20	60
Grade 5	22	30.0	30.0	20	60

*Note. The median is the middle value in a list of numbers arranged in order. It divides the dataset into two equal halves: one half of the values is below the median, and the other half is above it.



Findings

On the Math Block Inventory, math representatives from all schools were asked to provide details on Tier 3 interventions. Notably, students needing Tier 3 support typically would receive assistance from personnel other than their regular math teacher and outside regular math block. MCPS encourages the use of iReady Math (MCPS, 2024b).

The questions to be used in decision making for Tier 3 support are:

- Are there multiple data points indicating substantial underperformance relative to the grade level?
- Does historical data reveal significant gaps in standards across current and prior grade levels?
- For students with IEPs, do the foundational math skill goals necessitate an evidence based intervention alongside core instruction?

Depending on the grade-level, between 12 and 22 of the schools that completed the Math Block inventory schools, provided this information about Tier 3 interventions. Reflecting the fact that Tier 3 interventions target of students with intense needs, some schools reported that either no students used Tier 3 interventions, or their students utilized EQUIP resources, or only Tier 2 support was offered to students at their school.

The data provided showed that schools scheduled a single time slot or block for Tier 3 sessions for each grade level, either in the morning or afternoon. Fewer than one-fifth of the schools scheduled more than one session per grade level. Tier 3 interventions were consistently scheduled for an average duration of 30 minutes, with a median duration of 30 minutes for Grades 1 and above. Generally, Tier 3 interventions were scheduled 3 to 5 times a week.



Results: Math Block

Comments About Scheduling of Tier 3 Interventions

Illustrative Comments about Interventions

Math representatives reported ...

“ We do utilize WIN time in Grades 14, but at this time iReady Math is not used. Teachers utilize more Tier 2 approaches. We struggle to identify human resources to provide the intensity of Tier 3 interventions for math. ”

“ We have FIT time everyday which allows for small group instruction in either math or literacy. The full amount of time may not be utilized for math. ”

“ All grade levels have a 30 minutes intervention block per day. We use a coteaching model in all grade levels. Therefore, Tier 2 intervention takes place in the classroom during all math blocks. ”

“ We use Building Number Powers... a game based, standards based intervention ”

“ We have struggled to meet the standards set forth for implementing and maintaining the iReady intervention with fidelity. ”

“ We do not have the staffing and need more. The number of times per week is dependent on whether or not the student receives a reading intervention. ”

“ It is a struggle to find time to provide tier 2 and 3 support for students within the structure of the Eureka block. ”

“ We dont have Tier 3 interventions at this time, but are planning on starting a Grade 3 iReady group in a couple of weeks. ”

“ We do not have a specific block for math intervention (we only have designated ELA time). Students in tier 3 intervention receive instruction during math block when pulled out by HSM teachers. ”



Findings

The following summary reflects comments from math representatives (N=43) on implementing math interventions, organized into three key themes: multi-tiered system of supports, resource allocation and staffing challenges, and intervention structure and implementation variability.

Multi-tiered approach: Schools commonly implemented a multitiered intervention model, utilizing resources such as EQUIP, Delta Math, and Eureka’s reteaching strategies for Tier 2 support. Early interventions like Number Trajectory focused on foundational skills in Grades 1–2. However, the rapid pace of the Eureka Math curriculum raised concerns about flexibility to address individual student needs. While *iReady Math* was used for students with IEPs in Grades 3–5, its application was inconsistent, and it was not part of interventions for Kindergarten and Grade 1.

Resource allocation and staffing challenges: Staffing shortages significantly hindered effective interventions, as schools relied on paraprofessionals and part-time staff. Frequent reassignments led to inconsistent Tier3 support, and the loss of key staff disrupted intervention efforts. Additionally, the Home School Model (HSM) provided inadequate differentiation for students with learning disabilities.

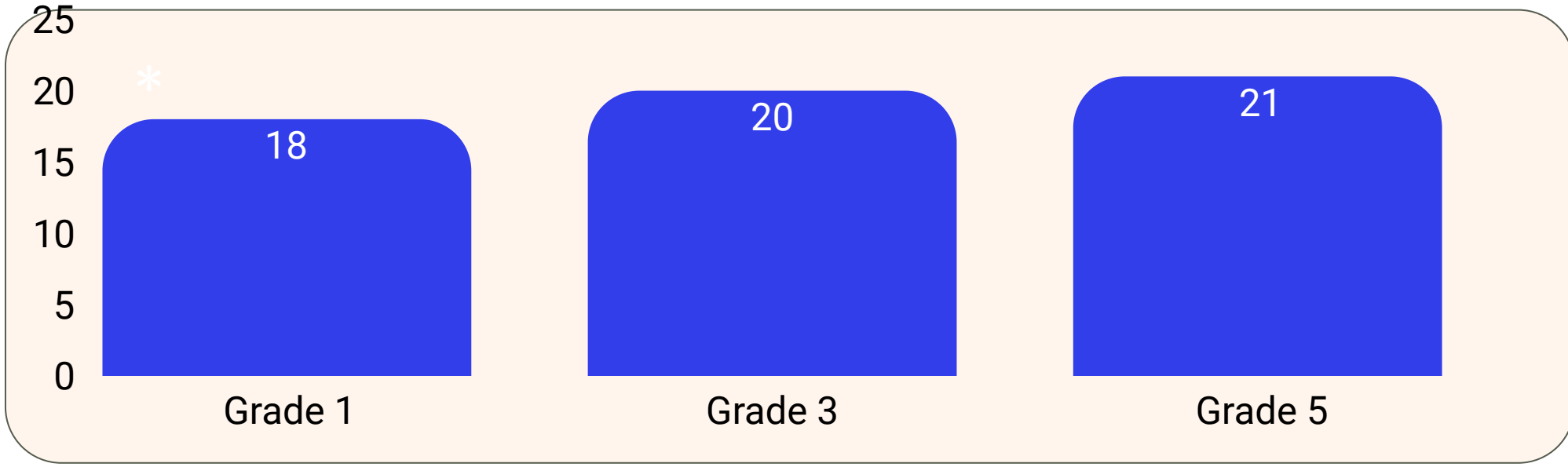
Intervention structure and implementation variability: There was notable variability in how math interventions were structured and delivered. Some schools used 30 minute intervention blocks, while others relied solely on Eureka Math based Tier 2 support. In the HSM, intervention for students with IEPs was often separate from support for other students. Challenges included overlapping Tier 3 support with class time, scheduling conflicts with reading interventions, and inconsistent iReady usage, all of which affected the effectiveness of math interventions.

Results: Classroom Observations

Number of Students and Adults in the Classroom During Data Collection

Findings

Average Number of Students in Class During Data Collection



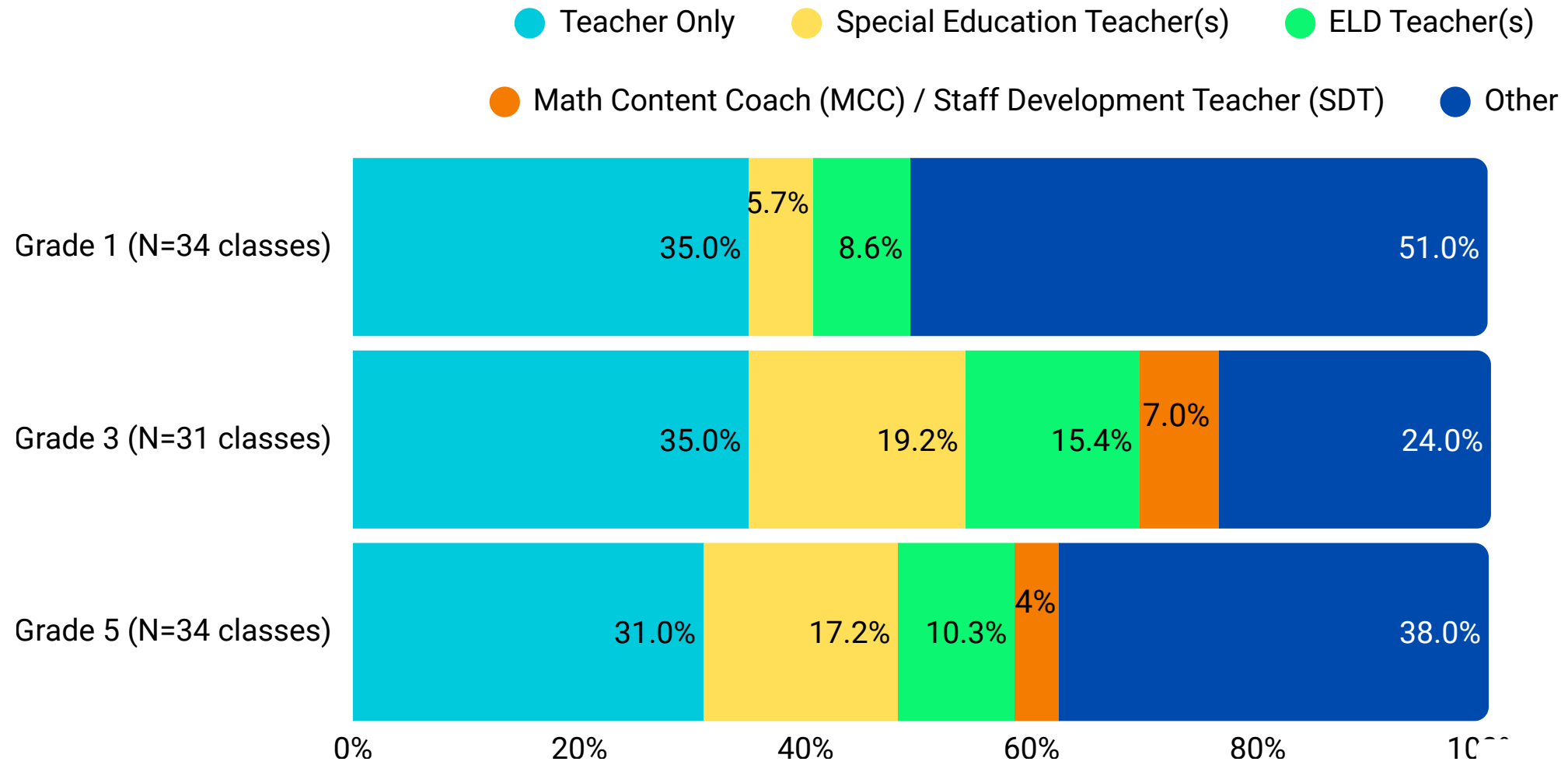
This analysis reviewed student and adult presence in 103 classrooms visited for data collection, noting student movement during lessons. In Maryland, recommended class sizes are: 18 for Pre-K, 24-25 for Kindergarten, 25-26 for Grades 1-2, 26 for Grade 3, and a maximum of 28 for Grades 4-5 (MSDE, 2024). Additional staff are assigned based on student needs. So, there was no expectation for extra staff in every classroom.

In Grade 1 (N=34), classes averaged 18 students. A third (35%) had only the teacher present, while 6% had special education teachers, 9% had ELD teachers, and 51% had "Other" adults (e.g., student teachers, paraeducators, substitutes). Grade 1 had the highest presence of additional adults, indicating greater support.

In Grade 3 (N=31), the average class size was 20. A third (35%) had only the teacher, 19% had special education teachers, 15% had ELD teachers, 4% had staff development teachers, and 3% had math content coaches. Other adults were present in 24% of classes. In Grade 5 (N=34), classes averaged 21 students. A third (31%) had only the teacher, 17% had special education teachers, 10% had ELD teachers, and 38% had other adults.

During math lessons, an average of 1 to 4 students left or entered classrooms for various reasons, including behavior and SEL support, instrumental music, special education interventions, ELD support, math intervention, or make-up state testing.

Percentage of Classrooms Where Specified Adults Were Present During Data Collection

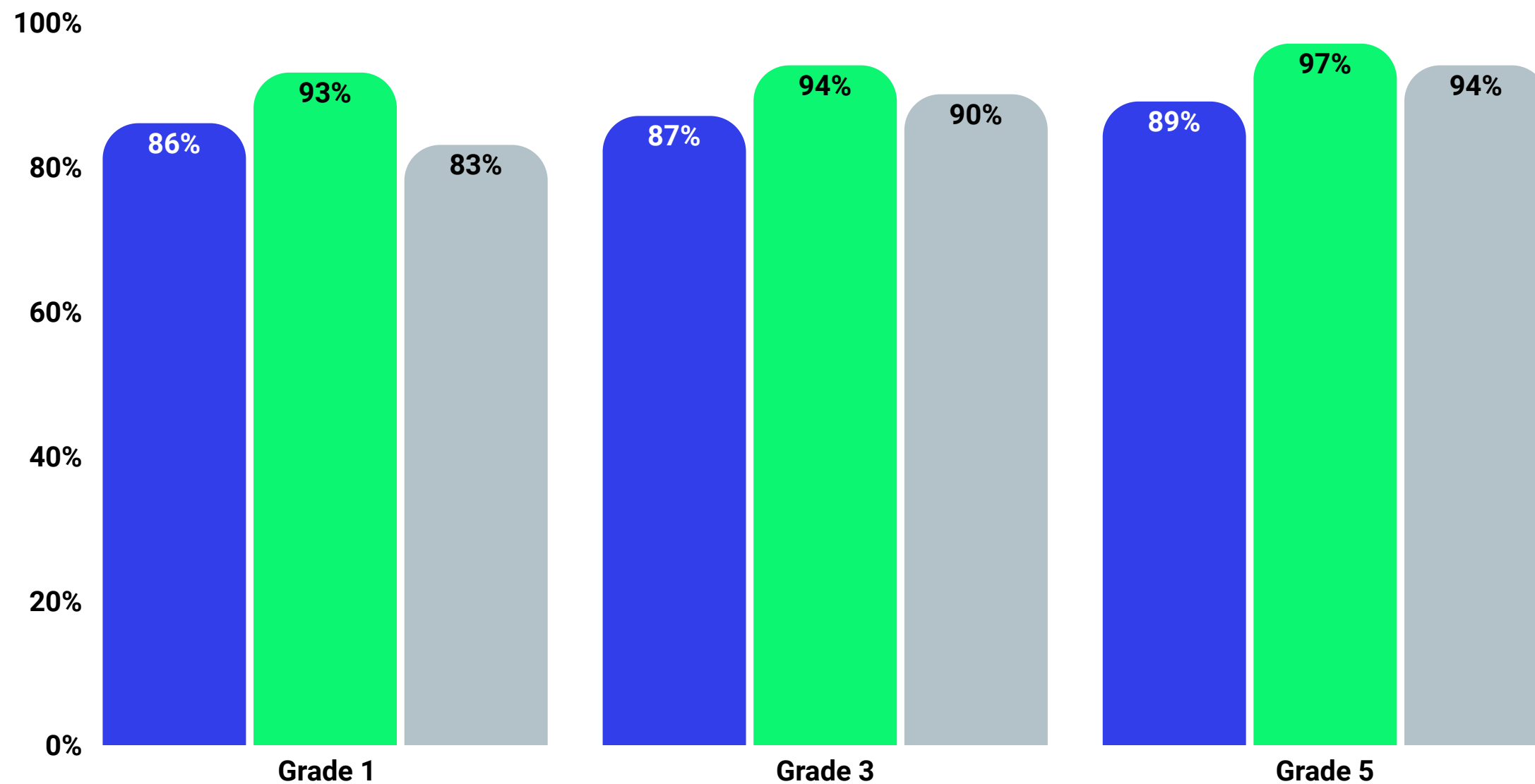




Results: Instructional Environment

Lesson Set up/Instructional Environment

Percentage of Classes (N=103) Where Lesson Set Up Components were Observed by Grade



Class schedule is posted.
Note. This may be at any place in the classroom.

Math lesson learning goals posted/or stated.

The **expectations of the class** (routines, roles, groupings, transitions) are posted or explicitly stated. **Note.** At any time during the lesson.



Findings

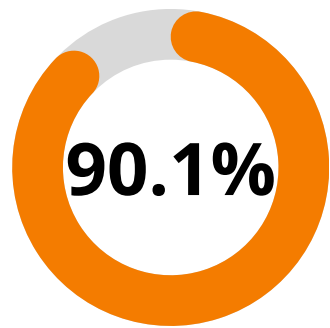
In the classes observed for data collection, three key aspects of a lesson set up—class schedule, lesson learning goals, and expectations—were observed in over 80% of the lessons.

- The class schedule was posted in 86% of Grade 1 classrooms, 87% of Grade 3 classrooms, and 89% of Grade 5 classrooms.
- Math lesson learning goals were prominently posted or stated in 93% of Grade 1 classrooms, 94% of Grade 3 classrooms, and 97% of Grade 5 classrooms, showing a high level of consistency in communicating learning objectives across all grades.
- Additionally, the expectations of the class, including routines, roles, groupings, and transitions, were posted or explicitly stated in 83% of Grade 1 classrooms, 90% of Grade 3 classrooms, and 94% of Grade 5 classrooms.

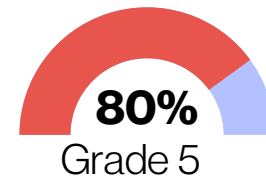
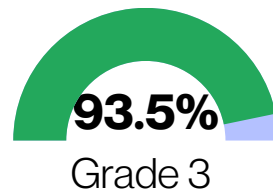
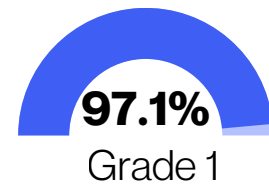


Results: Math Lessons

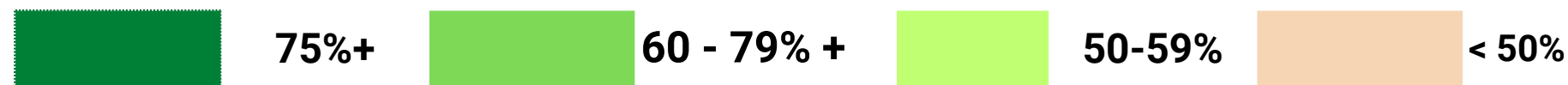
Implementation of the Fluency Practice Component



Observed Classes that Implemented Fluency Practice



Percent of Classrooms Where Specified Activities Expected of Teachers Were Observed



Activities expected of teacher	Classes Where Sprint was Implemented		
	Grade 1 (N=27)	Grade 3 (N= 27)	Grade 5 (N=22)
Sprint			
Monitors students responses (during Sprint)	80.0	76.9	72.7
Provides opportunity to explore and discuss patterns	35.0	23.1	29.6
Includes skipcounting routines and movement between sprints	10.0	7.1	18.1
Discusses patterns in Sprint A to apply to Sprint B	25.0	0	45.5
Uses correction process (e.g., going over correct answers)	60.0	84.6	72.7



Findings

Fluency practice, a key component in nearly all lessons, includes methods such as Sprint, Whiteboard Exchange, Counting, and Choral Response, with Sprint specifically designed to improve speed and accuracy with existing skills. Data showed that one or more of these fluency practices were present in about 90% of observed classes.

Sprint activities were observed in more than half of these lessons, while Whiteboard Exchange, Counting, and Choral Response were used less frequently. There was insufficient data to analyze these latter methods by grade level, as they were often not applicable to the observed lessons. Consequently, the analyses focused on the expected teacher and student actions during Sprint implementation. When Sprint was used, specified actions were expected to be implemented.

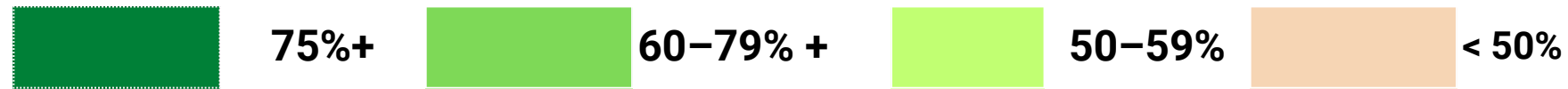
- **In Grade 1**, among lessons where Sprint was implemented, actions expected of teachers were observed as follows: monitoring student responses in 80% of classes, using a correction process in 60%, pattern exploration in 35%, pattern discussion between Sprints in 25%, and skip-counting routines in 10%.
- **In Grade 3**, among lessons that implemented Sprint, the observed teacher actions included monitoring student responses in 77% of classes, correction processes in 85%, pattern exploration in 23%, skip-counting routines in 7%, and no instances of pattern discussion between Sprints.
- **In Grade 5**, among lessons where Sprint was implemented, monitoring student responses and correction processes were observed in 73% of classes each. Pattern exploration occurred in 30% of classes, skip-counting routines in 18%, and pattern discussion between Sprints in 46%.



Results: Math Lessons

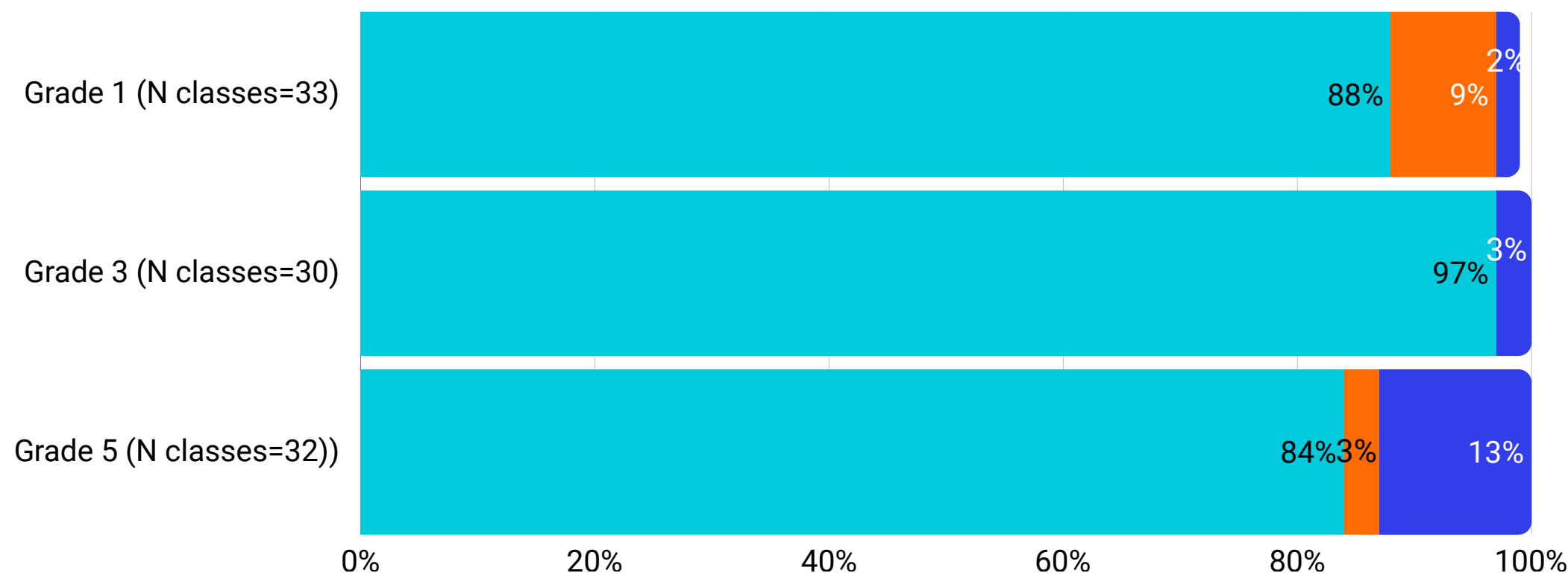
Implementation of the Fluency Practice Component

Percent of Classrooms Where Specified Activities Expected of Students Were Observed



Activities Observed of students	Classes Where Sprint Was Observed		
	Grade 1 (N=27)	Grade 3 (N= 27)	Grade 5 (N=22)
Sprint			
Students complete problems in order, with urgency	95.0	92.3	81.8
Students communicate about the patterns in the Sprint	30.0	30.8	27.3
Students track their own proficiency and improvement (e.g., how many got correct).	40.0	69.2	72.7

Proportion of Students **Participating Fully** During Fluency Practice



Findings

In classrooms where Sprint activities were observed, the data shows the percentage of lessons in which the specified student actions were noted across all classes within each grade.

In **Grade 1**, completing problems with urgency was observed in most classes (95%). Tracking their own proficiency was seen in less than half of the classes (40%), and communication about patterns occurred in about a third of the classes (30%).

In **Grade 3**, students completed problems with urgency in most classes (92%). Tracking proficiency was observed in more than half of the classes (69%). Communication about patterns was noted in about a third of the classes (31%).

In **Grade 5**, urgency in problem completion was observed in most classes (82%). Tracking proficiency occurred in more than half of the classes (73%), while communication about patterns was seen in less than a third of the classes (27%).

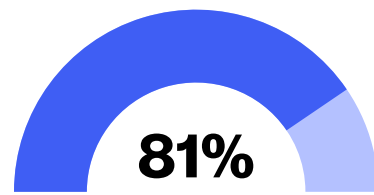
Overall, urgency in completing problems was the most consistently observed action across all grades.

Additional analyses showed that across Grades 1, 3, and 5, the majority of students were observed participating in Fluency Practice. In 88% of Grade 1 classes, 97% of Grade 3 classes, and 84% of Grade 5 classes, more than half of the students were observed participating fully in the activities.

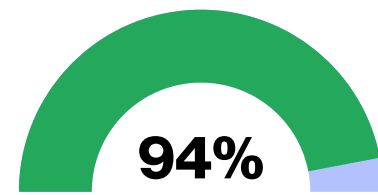


Results: Math Lessons

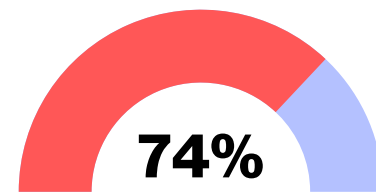
Implementation of the **Application Problem** Component



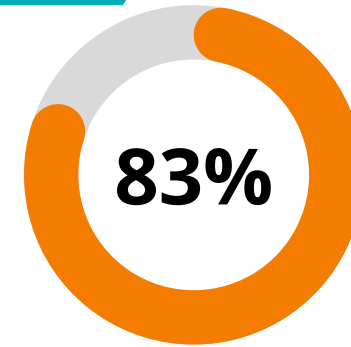
Grade 1



Grade 3

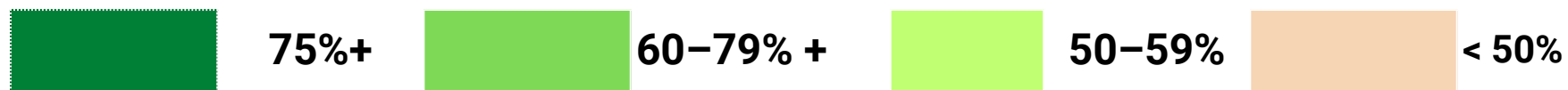


Grade 5



Observed Classes that Implemented Application Problem

Percentage of Classrooms Where Specified Activities Expected from Teachers were Observed



Activities expected of teacher	Grade 1 (N=34)	Grade 3 (N=31)	Grade 5 (N=34)
Facilitates the RDW process (e.g. demonstrating, guiding, independent use of reading, drawing, labeling, and writing).	71.4	74.2	45.7
Engages students in reading independently for context.	40.5	64.5	48.6
Engages students in reading together for shared understanding.	71.4	80.6	54.3
Engages students in drawing and labeling while revisiting the text.	71.4	80.6	57.1
Engages students in writing equations to represent and/or solve for an unknown.	71.4	74.2	48.6
Engages students in writing a statement that recontextualizes mathematics.	66.7	67.7	40.0
Monitors students progress (noting trends or misconceptions).	71.4	90.3	54.3



Findings

Overall, the Application Problem component was implemented in 83% of all lessons, though the extent of implementation varied by grade (74% to 94%).

The activities expected of the teacher during the Application Problem were implemented more consistently in Grades 1 and 3 compared to Grade 5. For instance, the RDW (Reading, Drawing, and Writing) process was observed in 71% of Grade 1 and 74% of Grade 3 classrooms, whereas it was observed in only 46% of Grade 5 classrooms.

Similarly, engaging students in shared reading for understanding was reported in 71% of Grade 1 and 81% of Grade 3 classrooms, but only 54% of Grade 5 classrooms. Drawing and labeling activities were present in 71% of Grade 1 and 81% of Grade 3 classrooms, compared to 57% of Grade 5 classrooms, indicating a trend of lower implementation in Grade 5.

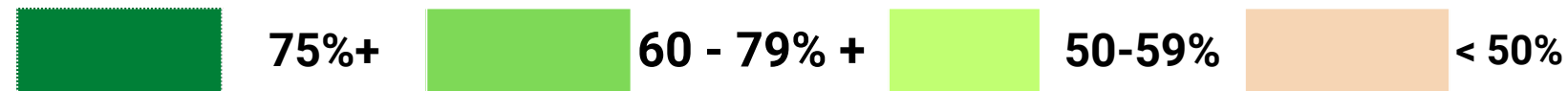
Additionally, practices such as writing statements that recontextualized mathematics and writing equations were observed in 40% and 49% respectively of Grade 5 classrooms.



Results: Math Lessons

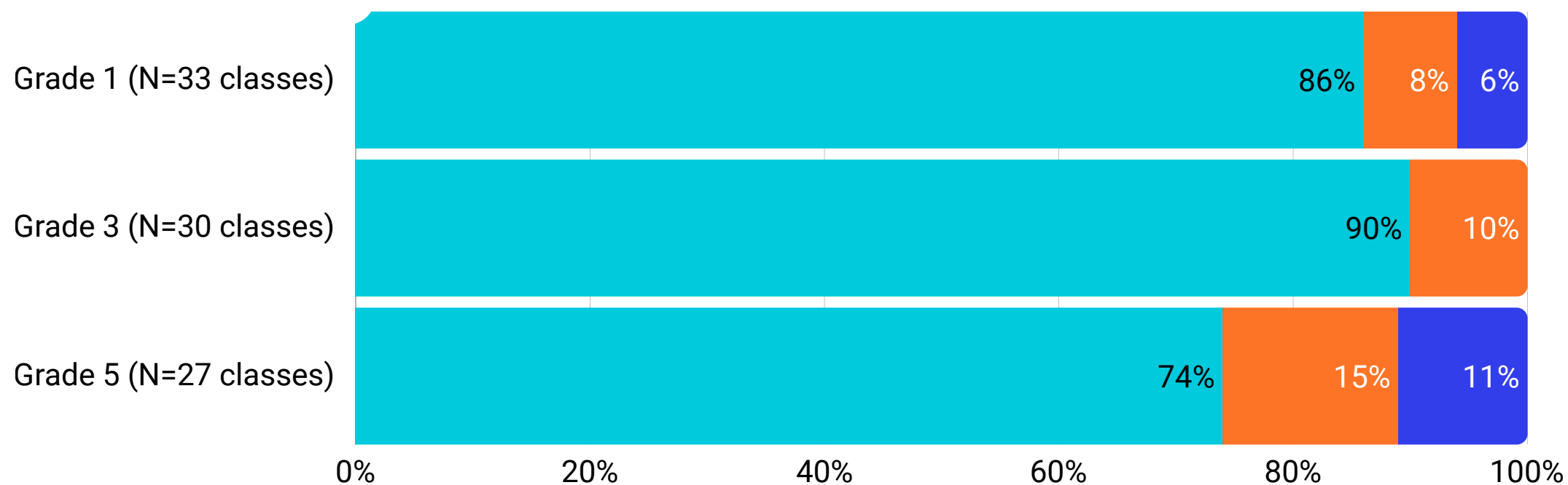
Implementation of the Application Problem Component

Percentage of Classrooms Where Specified Activities Were Observed: Students



Activities expected of students	Grade 1 (N=34)	Grade 3 (N=31)	Grade 5 (N=34)
Students draw and label a model that fits the problem.	71.4	83.9	54.3
Monitors students progress (noting trends and misconceptions).	71.4	90.3	54.3
Different students use different ways to find the answer.	57.1	74.2	48.6
Students talk about their ideas with others and how they relate to the problem.	45.2	67.7	37.1
Students write equations to match the problem	66.7	64.5	45.7

Proportion of Students Participating Fully During Application Problem



Findings

The findings indicated a high level of implementation of specified Application Problem activities expected of students in Eureka Math lessons for Grades 1 and 3. For instance, students drawing and labeling models fitting the problem were observed in 71% of Grade 1 and 84% of Grade 3 classrooms, compared to only 54% in Grade 5.

Monitoring student progress, including noting trends and misconceptions, occurred in 71% of Grade 1 and 90% of Grade 3 classrooms, while this was noted in only 54% of Grade 5 classrooms. Additionally, students used varied methods to find answers in 57% of Grade 1 and 74% of Grade 3 classrooms, but only 49% in Grade 5. Student discussions about their ideas related to the problem were observed in 45% of Grade 1 and 68% of Grade 3 classrooms, and only 37% of Grade 5 classrooms.

Finally, students writing equations to match the problem was observed in 67% of Grade 1, 65% of Grade 3, and 46% of Grade 5 classrooms.

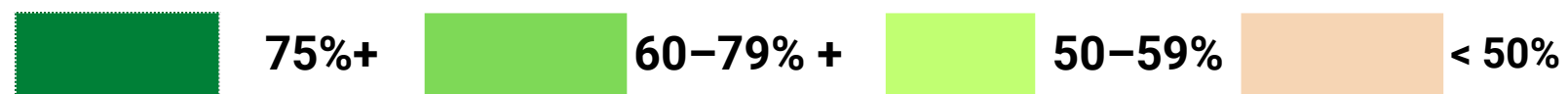
Across all grades 1, 3, and 5, the majority of students participated in the Application Problem. More than half of students participated fully in 86% of Grade 1, 90% of Grade 3, and 74% of Grade 5 classes.



Results: Math Lessons

Implementation of the Concept Development Component

Percentage of Classrooms Where Specified Activities Were Observed: Teachers



Activities expected of teacher	Grade 1 (N=34)	Grade 3 (N=31)	Grade 5 (N=34)
Links activities of the lesson to the lesson objective (understanding, fluency, or application as written in the lesson).	85.7	90.3	82.9
Encourages students to relate current concepts to previously learned material.	90.5	96.8	97.1
Utilizes tools, representations, and models to aid student comprehension.	92.9	100.0	94.3
Uses precise mathematical language relevant to the lesson.	61.9	83.9	68.6
Ensures all students have equal opportunities to share insights and learning throughout the lesson (e.g. uses structures and routines).	81.0	87.1	85.7
Elicits (clarifies) student thinking by prompting students to explain their reasoning or justify their answers.	85.7	90.3	88.6
Providing various scaffolds to support understanding.	83.3	96.8	85.7
Attentive to common misconceptions or errors that may arise.	78.6	90.3	88.6
Asks probing questions to address misunderstanding or clarify concepts.	88.1	96.8	97.1
Models problemsolving strategies.	78.6	80.6	68.6
Provides additional (at least one additional example) examples to support comprehension.	88.1	93.5	94.3
Validates student contributions.	92.9	96.8	85.7
Uses tasks (examples) that have multiple paths to a solution (or multiple solutions).	71.4	74.2	65.7



Findings

Concept development, which is allotted the majority of lesson time (25 minutes), was implemented in 100% of classrooms observed across Grades 1, 3, and 5.

Additionally, most actions expected of the teacher during concept development were observed in over 80% of classrooms: linking lesson activities to objectives (86% in Grade 1, 90% in Grade 3, and 83% in Grade 5), encouraging students to relate current concepts to prior learning (91% in Grade 1, 97% in Grade 3, and 97% in Grade 5), and utilizing tools and models for comprehension (93% in Grade 1, 100% in Grade 3, and 94% in Grade 5).

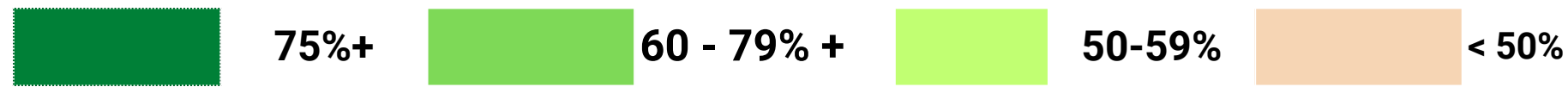
Action expected of teachers observed in 60–75% of classrooms included using precise mathematical language and modeling problem solving strategies. Importantly, no activities expected of teachers were observed in less half of the classrooms, regardless of grade level.



Results: Math Lessons

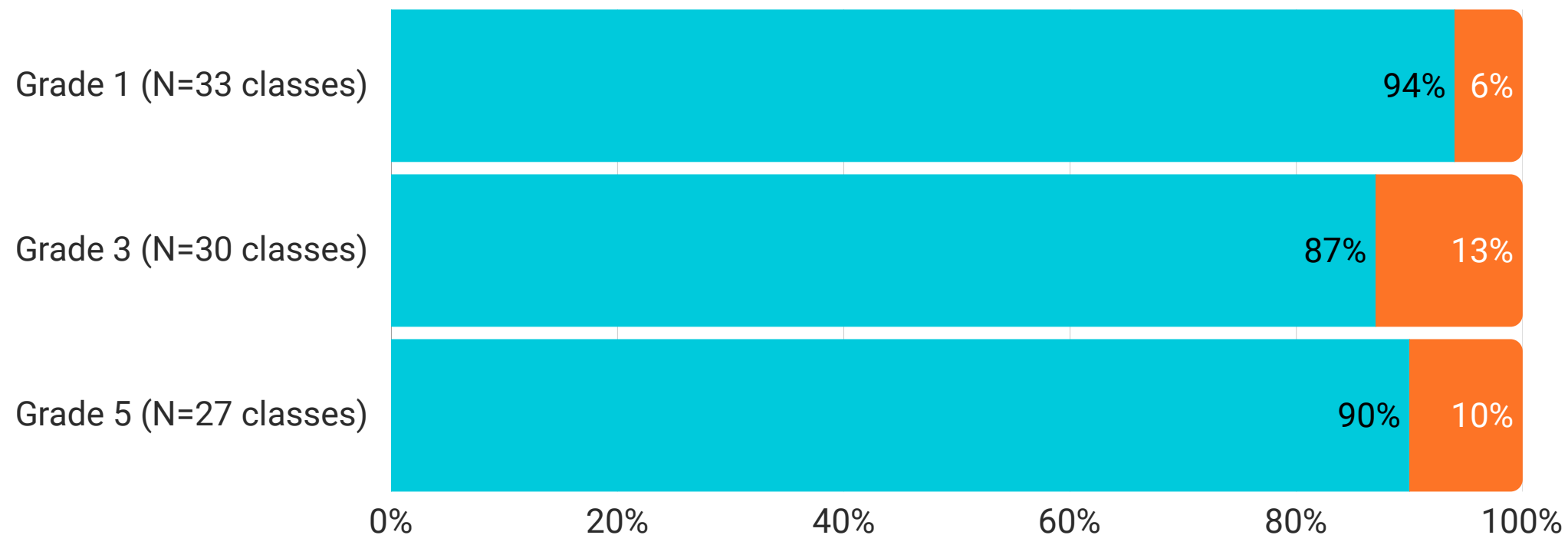
Implementation of the Concept Development Component

Percentage of Classrooms Where Specified Activities Were Observed: Students



Activities expected of students	Grade 1 (N=34)	Grade 3 (N=31)	Grade 5 (N=34)
Students model their thinking with representations and tools.	95.2	96.8	97.1
Students use accurate mathematical language in discourse and writing.	73.8	93.5	88.6
Students articulate understanding in whole class discussions.	83.3	80.6	82.9
Students articulate understanding in peer to peer discussions.	57.1	77.4	65.7

Proportion of Students Participating Fully During Concept Development



Findings

During concept development, students modeling their thinking with representations and tools was observed in nearly all the classes: 95% of Grade 1, 97% of Grade 3, and 97% of Grade 5 classrooms.

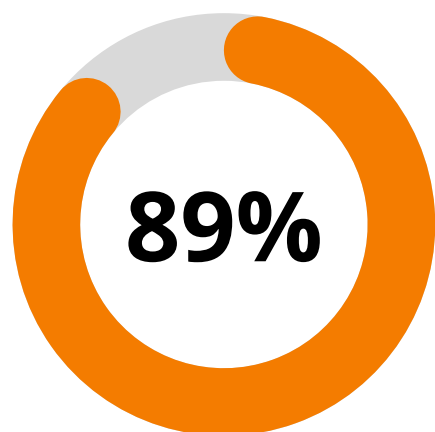
Across grade levels, notable patterns emerge in student engagement with key activities. Modeling thinking with representations and tools was observed in 95% of Grade 1, 97% of Grade 3, and 97% of Grade 5 classrooms. The use of accurate mathematical language was seen in 74% of Grade 1, 94% of Grade 3, and 89% of Grade 5 classrooms. Students articulated their understanding in whole-class discussions in 83% of Grade 1, 81% of Grade 3, and 83% of Grade 5 classrooms. Peer-to-peer discussions where students articulated their understanding were observed in 57% of Grade 1, 77% of Grade 3, and 66% of Grade 5 classrooms.

Most students participated fully during Concept Development in 94% of Grade 1, 87% of Grade 3, and all (100%) of Grade 5 classes.

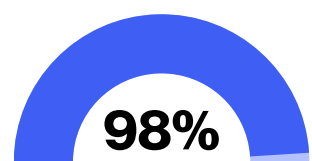


Results: Math Lessons

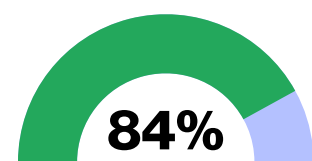
Implementation of the Problem Set Component



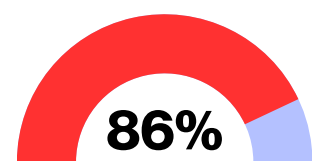
Observed Classes that Implemented Problem Set



Grade 1



Grade 3



Grade 5

Percentage of Classrooms Where Specified Activities Were Observed: Teachers



Activities expected of teacher	Grade 1 (N=34)	Grade 3 (N=31)	Grade 5 (N=34)
Allows time (10 minutes) of independent time for every student.	69.0	71.0	71.4
Limits time with individual students to prioritize monitoring every student's work.	78.6	71.0	65.7
Designates the order of problems to complete (Must Do, Could Do, Extension).	47.6	64.5	68.6
Takes notes or records observations.	81.0	67.7	45.7
Provides additional challenging problems or enrichment activities to extend student learning.	33.3	35.5	37.1



Findings

The Problem Set component was implemented in 89% of lessons, varying by grade from 84% to 98%. Teacher actions during Problem Set also differed across Grades 1, 3, and 5.

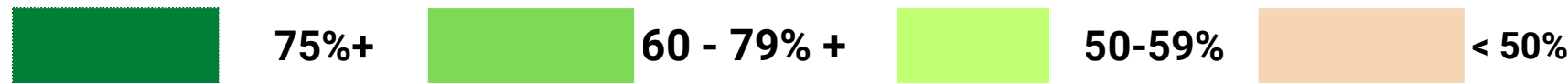
- **Independent work time:** Teachers allowed about 10 minutes for independent work in 69% of Grade 1 classrooms and 71% of Grade 3 and 5 classrooms.
- **Limiting time with individual students.** Teachers prioritized monitoring every student's work in 79% of Grade 1, 71% of Grade 3, and 66% of Grade 5 classrooms.
- **Designating problem order:** Designating problem order (Must Do, Could Do, Extension) was observed in 48% of Grade 1, 65% of Grade 3, and 69% of Grade 5 classrooms.
- **Recording notes:** Note-taking was observed in 81% of Grade 1, 68% of Grade 3, and 46% of Grade 5 classrooms.
- **Enrichment activities:** The Eureka Math curriculum supports advanced learners through structured modules of topics and lessons, offering flexible enrichment within any lesson (MCPS< 2024b). Its systematic, tiered approach increases rigor and complexity while deepening understanding of grade-level standards, ensuring engaging, challenging lessons for all students. While not necessarily expected to be part of each lesson, enrichment activities were observed in 33% of Grade 1 lessons, 36% of Grade 3 lessons, and 37% of Grade 5 lessons.



Results: Math Lessons

Implementation of the Problem Set Component

Percentage of Classrooms Where Specified Activities Were Observed: Students



Activities expected of students	Grade 1 (N=34)	Grade 3 (N=31)	Grade 5 (N=34)
Students engage in 10 minutes of independent or partner practice.	76.2	71.0	77.1
Students shows work their work and explain thinking as indicated by the problem.	90.5	64.5	74.3
Students make effort to resolve confusion independently (consulting anchor charts, asking peers) before seeking assistance from the teacher.	61.9	71.0	71.4



Findings

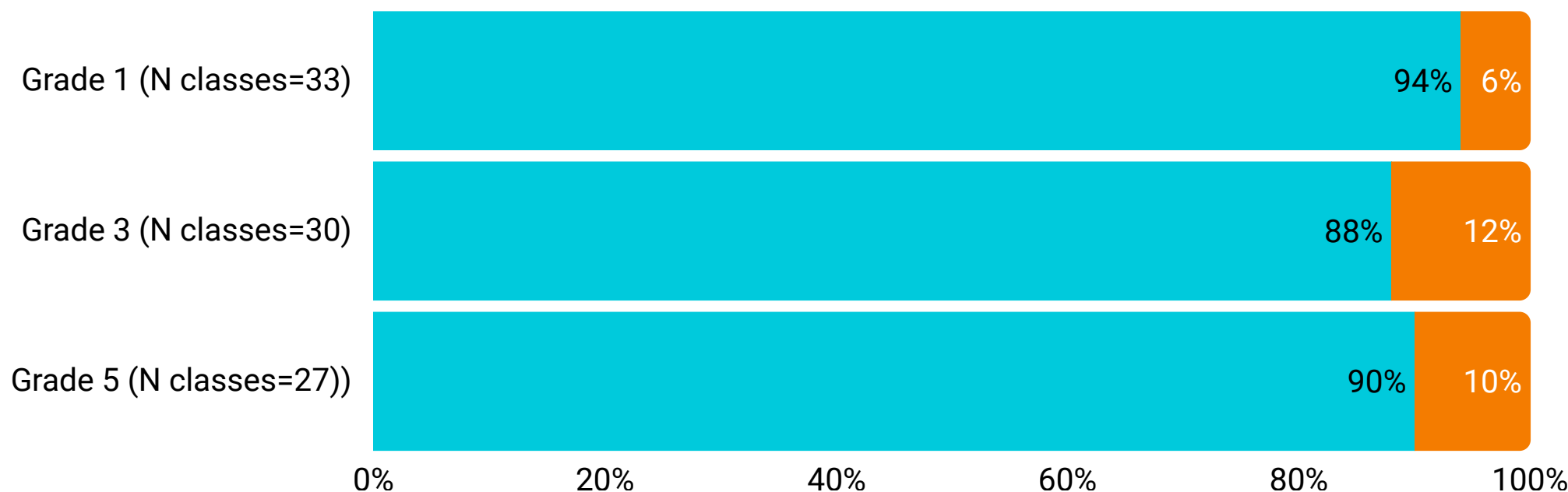
The analysis of data on actions expected of student during the Problem Set component of Eureka Math lessons revealed the following trends:

Engagement in 10 minutes of independent or partner practice was observed in 76% of Grade 1 classrooms, 71% of Grade 3 classrooms, and 77% of Grade 5 classrooms, indicating consistent implementation across all grades.

Showing their work and explaining thinking was observed in 91% of Grade 1 classrooms, 65% of Grade 3 classrooms, and 74% of Grade 5 classrooms, with Grade 1 classrooms showing the highest adherence.

Efforts to resolve confusion independently were observed in 62% of Grade 1 classrooms, 71% of Grade 3 classrooms, and 71% of Grade 5 classrooms. Most students were observed participating fully during the Problem Set component in 94% of Grade 1, 88% of Grade 3, and all (100%) of Grade 5 classes.

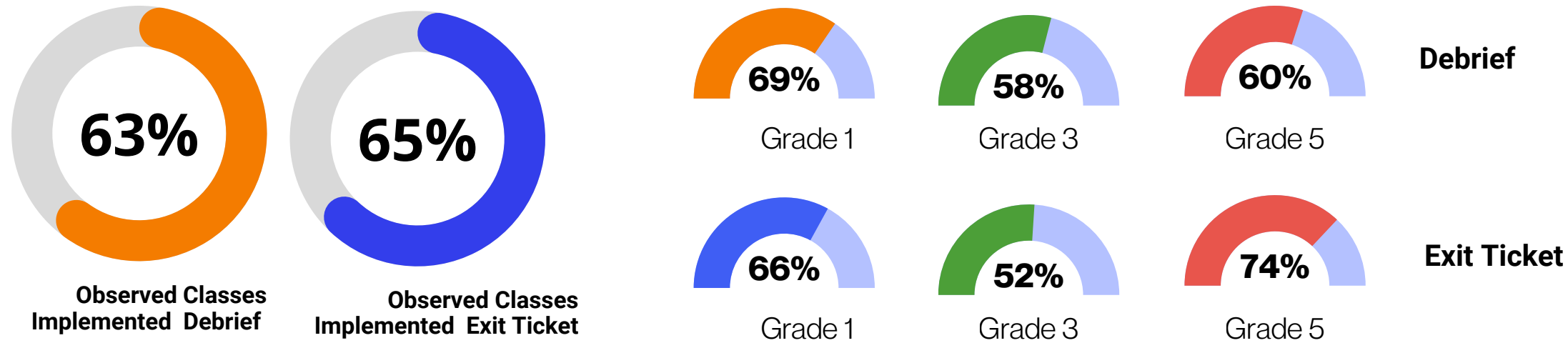
Proportion of Students Participating Fully During Problem Set Component





Results: Math Lessons

Implementation of the Debrief and Exit Ticket Component



Percentage of Classrooms Where Specified Activities Were Observed: Teachers



Activities expected of teacher	Grade 1 (N=34)	Grade 3 (N=31)	Grade 5 (N=34)
Debrief			
Asks questions that elicit student thinking, reflect on learning and promote metacognition	57.1	48.4	51.4
Facilitates student-led discussions focused on key concepts in the lesson.	40.5	38.7	37.1
Prompts students to elaborate on their reasoning (e.g., clarify their thoughts using precise language, or compare their strategies).	47.6	41.9	42.9
Exit Ticket			
Allocates 3-5 minutes for students to complete the Exit Ticket independently.	52.4	48.4	68.6
Circulates the room to monitor student progress.	45.2	45.2	51.4
Provides verbal feedback as needed.	45.2	32.3	45.7
Collects completed Exit Tickets for every student.	50.0	48.4	51.4



Findings

The Debrief and Exit Ticket components were implemented in 63% and 65% of observed classrooms, respectively, with variations in the actions expected of the teacher for each component.

For the Debrief component, asking questions to elicit student thinking was seen in more than half of Grade 1 classrooms (57%), but in less than half of Grade 3 (48%) and about half of Grade 5 (51%) classrooms. The facilitation of student-led discussions and prompting students to elaborate on reasoning were infrequent, with fewer than half of classrooms engaging in these practices across all grades (Grade 1: 41% and 48%, Grade 3: 39% and 42%, Grade 5: 37% and 43%, respectively).

In the Exit Ticket component, allocating 3-5 minutes for completion was observed in more than half of Grade 5 classrooms (69%) and half of Grade 1 (52%) and close to half of Grade 3 (48%) classrooms. Monitoring progress by circulating the room was seen in more than half of Grade 5 classrooms (51%), but less frequently in Grades 1 (45%) and 3 (45%). Providing verbal feedback was noted in more than half of Grade 1 (45%) and Grade 5 (46%) classrooms, but in fewer than half of Grade 3 classrooms (32%). Collecting completed Exit Tickets was observed in about half of Grade 1 (50%) and Grade 5 (51%) classrooms, with less than half in Grade 3 (48%).



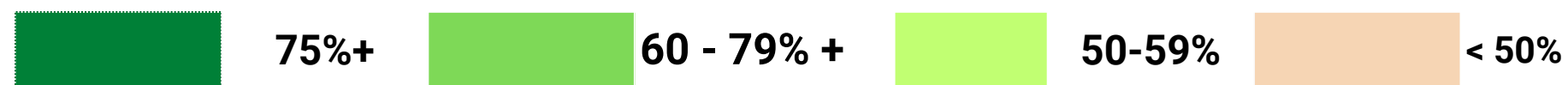
Results: Math Lessons

Implementation of the Debrief and Exit Ticket Components



Findings

Percentage of Classrooms Where Specified Activities Were Observed: Students



Activities expected of students	Grade 1 (N=34)	Grade 3 (N=31)	Grade 5 (N=34)
Exit Ticket			
Students engage in 3-5 minutes of independent or partner practice.	55.6	50.0	64.7
Students show work and explain thinking as indicated by the problem.	52.8	46.9	55.9
Students make independent attempts to resolve confusion (referring to anchor charts, consulting peers) before seeking teacher assistance.	41.7	34.4	52.9

Student actions during the Debrief and Exit Ticket components varied across grade levels, with notable patterns emerging in Grades 1, 3, and 5.

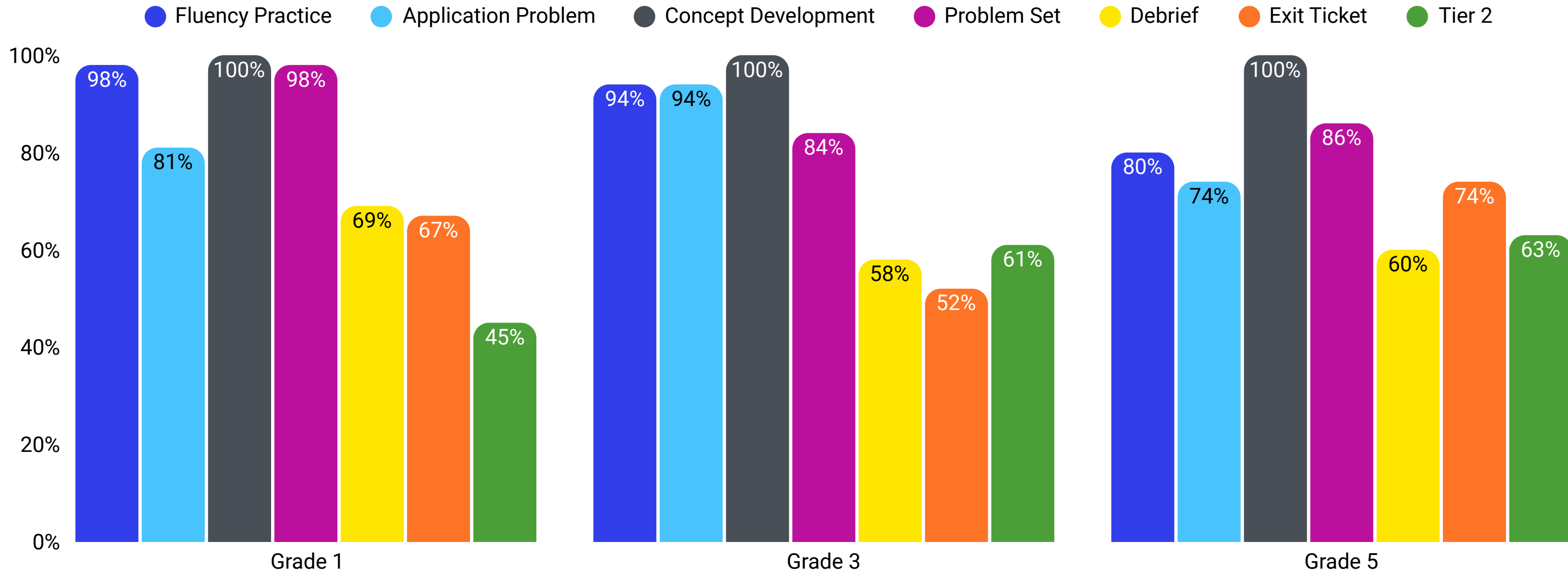
For the **Debrief component**, reflecting on learning was observed in about half of Grade 5 classrooms (52%) and Grade 1 (50%), with close to half in Grade 3 (45%). Participation in discussions and providing detailed explanations followed a similar trend, with Grade 5 classrooms showing slightly higher engagement (47% and 50%, respectively) compared to Grades 1 (45% and 48%) and 3 (40% and 42%).

In the **Exit Ticket component**, actions expected of students varied across grades. Students engaging in 3-5 minutes of practice was observed in more than half of Grade 5 classrooms (65%), as well as in Grade 1 (56%) and Grade 3 (50%). Students showing work and explaining thinking were seen in slightly more than half of Grade 1 (53%) and Grade 5 classrooms (56%), but in fewer than half of Grade 3 classrooms (47%). Students making independent attempts to resolve confusion was noted in more than half of Grade 5 classrooms (53%), compared to fewer than half in Grade 1 (42%) and Grade 3 (34%).



Results: Overview of Math Lessons

Percentage of Lessons Where Each Component of a Eureka Math Lesson were Implemented (N=103)



Findings



Overall, among the 103 lessons observed, the implementation of components from the Eureka Math curriculum—such as Fluency Practice, Application Problems, Concept Development, Problem Sets, and Debrief and Exit Tickets—varied across different grades. Fluency Practice activities were common in almost all classrooms, with participation rates of 98% in Grade 1, 94% in Grade 3, and 80% in Grade 5. These activities included options like sprints, choral practice, whiteboard exchanges, and counting exercises. Concept Development was consistently present in 100% of the observed classrooms. The Application Problem component was incorporated in 81% of Grade 1, 94% of Grade 3, and 74% of Grade 5 classrooms. On the other hand, though observed in majority of the lessons, the implementation rates for Debrief and Exit Ticket activities were lower, with Debrief activities occurring in 69% of Grade 1, 58% of Grade 3, and 60% of Grade 5 classrooms. Exit Tickets were included in 52-74% of lessons, depending on the grade level. Tier 2 support activities focus on flexible, targeted instruction tailored to individual student and teacher needs. These supports, drawn from the Eureka Math curriculum and guided by formative assessments, include strategies such as explicit instruction, small group activities, foundational fluency exercises, or additional concept development. Tier 2 activities were observed of Grade 1, 61% of Grade 3, and 63% of Grade 5 classrooms.



Results: Overview of Math Lessons

Reported Duration of Components of Eureka Lessons

Target and Actual Time (Minutes) Recorded for Components of Eureka Lessons (N=107)

Component	Target time (minutes)	All (N=101)		Grade 1(N=34)		Grade 3 (N=31)		Grade 5 (N=34)	
		Mean (minutes)	median	Mean (minutes)	median	Mean (minutes)	median	Mean (minutes)	median
Fluency Practice	10	11.5	10.0	11.3	10.0	12.6	11.0	10.6	10.0
Application Problem	6	10.8	10.0	9.8	10.0	11.7	11.0	11.1	10.0
Concept Development	25	27.4	26.0	26.0	25.0	27.7	26.5	29.0	25.5
Problem Set	10	13.5	12.0	12.6	12.0	12.6	10.0	15.2	13.0
Student Debrief	6	5.0	5.0	5.1	5.0	4.8	5.0	5.1	5.0
Exit Ticket	5	5.6	5.0	5.3	5.0	5.8	5.0	5.9	5.0

Findings



In general, the Eureka Math lessons observed adhered closely to the recommended time frames for each component, aligning with Eureka Math’s **Time-bound** approach. For the sample of classrooms and lessons that were observed, the recorded durations for Fluency Practice and Concept Development were either near or slightly above their target times, averaging 11.5 minutes (target: 10 minutes) and 27.4 minutes (target: 25 minutes), respectively. On average, the time spent on the Application Problems and Problem Sets components also slightly exceeded their suggested durations, while on average, the Student Debrief and Exit Ticket were completed within the anticipated time limits.

It is worth noting that other feedback from observers, through comments, and follow-up discussions with teachers elaborated that the Debrief and Exit Ticket segments components often felt rushed. Additionally, as indicated from extent of implementation of these two components, some actions expected of either teachers or students were not seen, mainly due to the need for students to transition to the next lesson once the math period concluded or go on break.

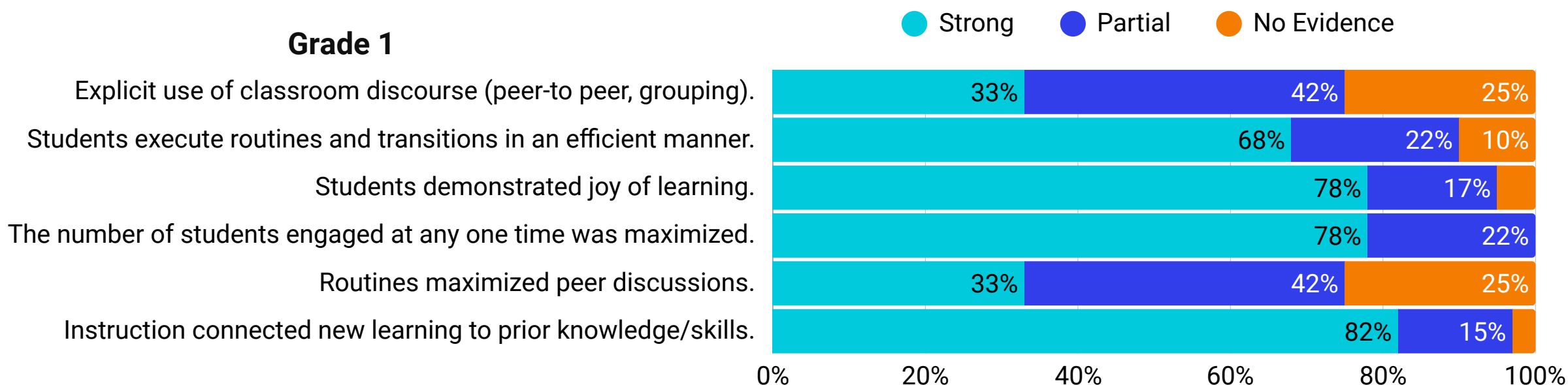


Results: Overview of Math Lessons

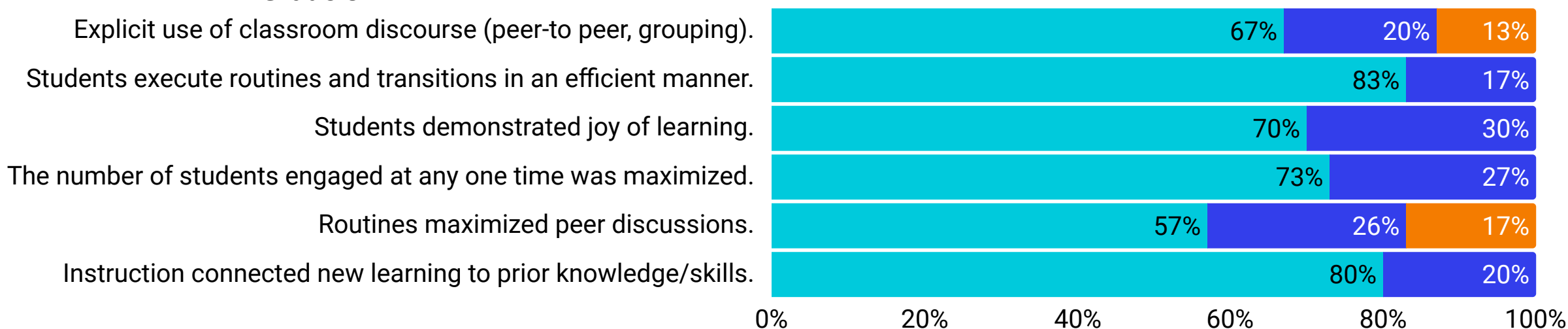
Extent of Student Engagement in Classes Observed

Percentage of Classes Rated with Strong, Partial, or No Evidence of Engagement

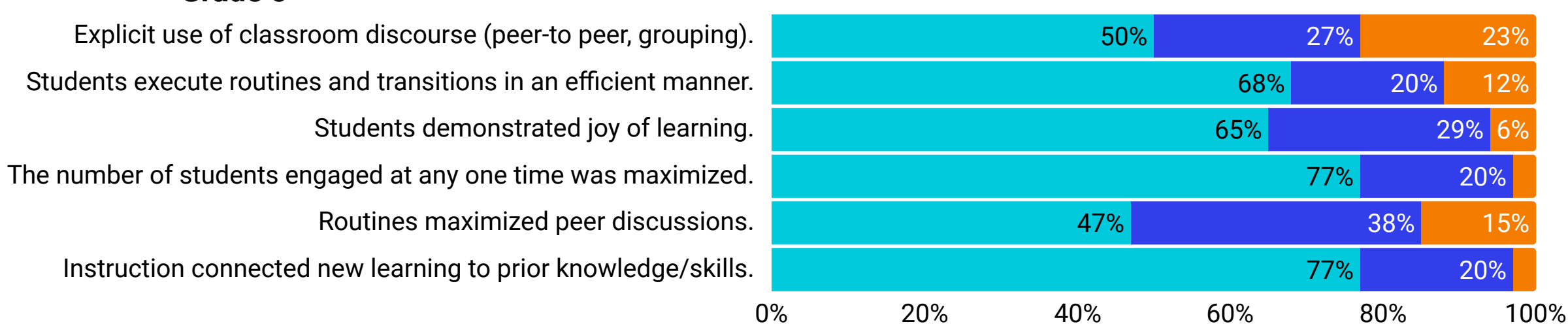
Grade 1



Grade 3



Grade 5



Findings

The lesson overview data revealed varying levels of student engagement and instructional routine. In Grade 1, 33% of classrooms demonstrated explicit use of classroom discourse, 68% executed routines and transitions efficiently, and 78% reported students showing a joy of learning. Additionally, 78% of classrooms maximized student engagement, and 82% connected new learning to prior knowledge. However, only 33% of classrooms implemented routines that maximized peer discussions.

In Grade 3, 67% of classrooms showed explicit use of classroom discourse, 83% executed routines efficiently, and 70% reported students demonstrating a joy of learning. Additionally, 73% maximized student engagement, and 80% connected new learning to prior knowledge. Notably, 57% of classrooms used routines that maximized peer discussions.

In Grade 5, 50% of classrooms exhibited explicit use of classroom discourse, 68% executed routines efficiently, and 65% reported students demonstrating a joy of learning. Furthermore, 77% maximized student engagement, and 77% connected new learning to prior knowledge. However, only 47% of classrooms utilized routines that maximized peer discussions.



Results: Staff Surveys

Successful Aspects of Elementary Math Program Reported by Teachers

The following themes emerged from the open-ended question posed to teachers, "**Based on your experiences or observations (formative & summative data or anecdotal information), please list the most successful aspects of the Pre-K-5 mathematics instructional program.**"

The open-ended responses from teachers (N=102) highlighted several key strengths of the Eureka Math program, reflecting its effectiveness in enhancing mathematical learning among students. Themes reflect comments from at least 10 respondents.

Themes	Focus
Structured Curriculum /Consistent Use of Curriculum	<ul style="list-style-type: none"> • Effective Use of Exit Tickets. Exit tickets were praised for their utility in assessing daily understanding. Teachers noted that these quick checks provided immediate feedback on student comprehension, helping them tailor subsequent instruction to meet individual learning needs effectively. • Emphasis on Fluency Practice. The program's focus on fluency practice, including daily fluency activities, was highly valued. Teachers observed that regular practice with math facts and problem solving strategies improved students' computational skills and boosted their confidence and motivation in mathematics. • Practical Application through Problem Sets. The inclusion of daily problem sets that progressed in complexity allowed students to apply learned concepts in real-world contexts. Teachers found these application problems valuable for developing students' critical thinking and problem solving abilities.
Incremental Skill Development	The curriculum's approach of building skills progressively was recognized for fostering a deeper understanding and mastery of mathematical concepts.
Engagement and Motivation	The structured format and engaging activities of the lessons were noted for enhancing student engagement and motivation in mathematics.
Comprehensive Resources	The instructional materials, including workbooks and manipulatives, supported differentiated instruction and effectively addressed wide range of learning needs.
Supportive Learning Community Within School and District	The elementary math program fostered a collaborative environment through planning and professional development, leading to better implementation and student achievement.
Alignment of Assessments and Curriculum	Some teachers valued the alignment between assessments and curriculum content for accurate measurement of student learning and making informed instructional decisions. Notably, when asked about challenges some indicated that the assessments were not aligned or useful for instructional planning.



Results: Staff Surveys

Successful Aspects of Elementary Math Program Reported by Instructional Leaders

The following themes emerged from the open-ended question posed to instructional leaders, "**Based on your experiences or observations (formative & summative data or anecdotal information), please list the most successful aspects of the Pre-K-5 mathematics instructional program?**"

Open-ended responses from instructional leaders (N=147 of 249) surfaced several themes that highlighted the successful aspects of elementary math instructional program. These themes reflect effective strategies and resources contributing to student learning and achievement.

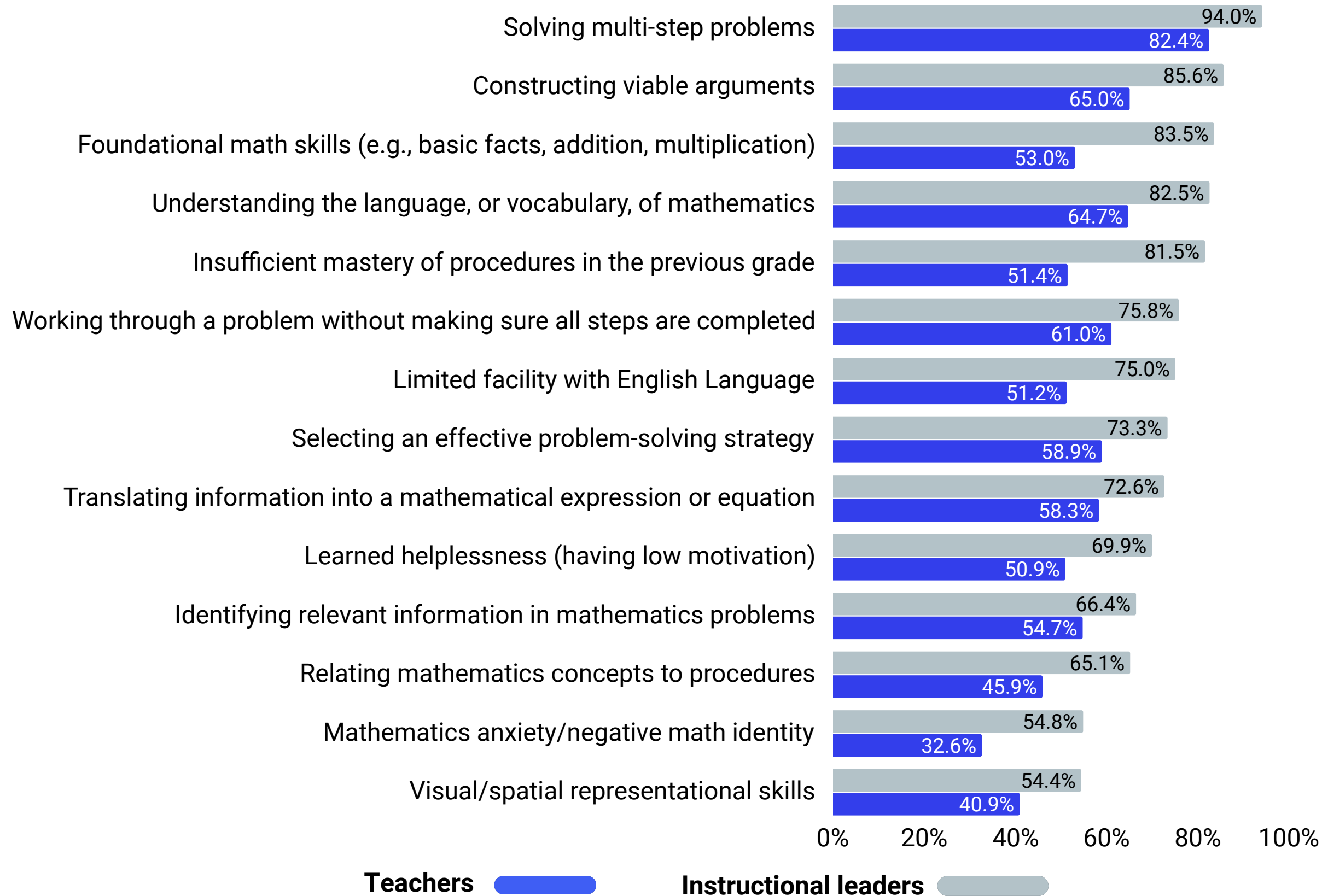
Theme	Focus
Structured Learning Progressions in Eureka Math and Formative Assessments	<p>Leaders emphasized the structured learning progressions and continuity in the curriculum as successful aspects, including:</p> <ul style="list-style-type: none"> • Read-Draw-Write (RDW) Method: Effective in guiding problem-solving steps and enhancing understanding, especially for word problems. • Aligned Homework and Exit Tickets: Essential for formative assessment, reinforcing classroom learning, and providing insights into student progress. • Spiral Curriculum: Beneficial for deep conceptual understanding through revisiting and building on previous concepts, supported by formative and summative assessments.
Availability of Resources and Tools	Comprehensive instructional resources and tools available through platforms like Canvas, Navigator, and Equip facilitate professional development and support differentiated instruction, promoting engaging and rigorous learning experiences.
Engaging Learning Strategies	Game-based practice, interactive visuals, and hands-on materials such as manipulatives and models were recognized for enhancing student engagement and skill development through dynamic and tailored learning experiences.
Emphasis on Differentiation for Learners with Different Needs	Differentiation strategies were reported as a successful aspect and crucial for equitable access to rigorous content. Small group instruction and targeted interventions supported English learners and students with disabilities in achieving grade-level proficiency.



Results: Staff Surveys

Instructional Needs that Present Challenges for Students

Percentage of Staff Identifying Key Challenges and Instructional Needs Faced by Students



Findings

Using a provided checklist of potential challenges, instructional leaders and teachers identified the following as moderate to significant challenges for their students, based on interactions with students and data analysis.

Solving multi-step problems emerged as the most pressing challenge, with 94% of instructional leaders and 82% of teachers highlighting it as a significant concern.

Constructing viable arguments was noted by 86% of instructional leaders and 65% of teachers, while understanding mathematical language was reported by 83% of instructional leaders and 65% of teachers. Foundational math skills were identified by 84% of instructional leaders, although only 53% of teachers considered this a pressing issue.

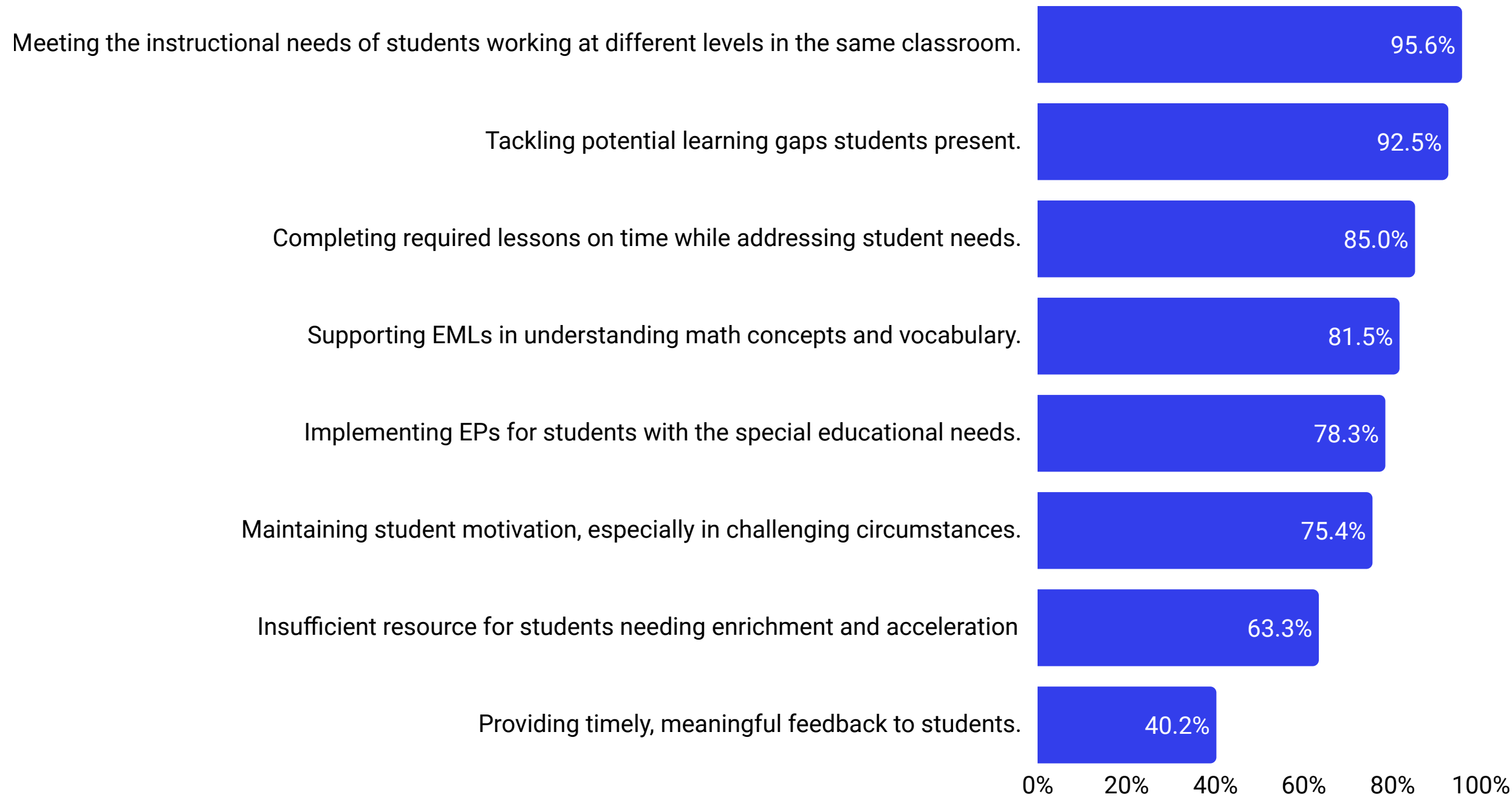
Insufficient mastery of previous grade procedures and skills was identified as a challenge by 82% of instructional leaders and 51% of teachers. Additionally, not working through problems thoroughly was noted by 76% of instructional leaders and 61% of teachers. Limited facility with English and selecting effective problem-solving strategies were challenges for 75% and 73% of instructional leaders, respectively.



Results: Staff Surveys

Moderate or Significant Challenges Related to Instruction

Percentage of Instructional Leaders Reporting Situations That Posed Moderate to Significant Challenges



Findings

Using a provided checklist, instructional leaders pinpointed the most pressing challenges to effective math instruction. These items were presented only in the instructional leaders survey, so no comparison with teachers is available.

Nearly all leaders (96%) cited addressing the instructional needs of students at varying levels within the same classroom and identified addressing potential learning gaps among students (93%) as significant challenges.

Over 80% of respondents reported completing required lessons on time, addressing individual student needs (85%) and supporting Emergent Multilingual Learners (EMLs) with math concepts and vocabulary (82%).

Most instructional leaders struggled with implementing individualized educational plans (IEPs) for students with special needs (78%) and maintaining student motivation in challenging situations (75%). Additionally, 65% reported they faced difficulties in supporting students who need enrichment and acceleration in math content.

Only 40% of the respondents reported that providing timely and meaningful feedback to students was a moderate or significant challenge.



Results: Staff Surveys

Other Challenges Reported by Teachers (N=26)

Teachers reported ...

“ Finding additional meaningful enrichment has been challenging for my accelerated students. ”

“ And the assessments give us data but then we just carry on with the next lesson and there's no time to USE the data to go back and meet with the kids who needed more time to learn it. ”

“ If a kid is sick for two days, they miss a lot of information, making it hard to catch up. ”

“ Some students finish their tasks quickly and need more than just additional problems to stay engaged. A lot of teachers feel like Eureka teaches to the middle. ”

“ Students struggle with math terminology, especially when translating it between languages. The vocabulary is too difficult and should include more bilingual options to aid understanding. ”

“ The performance tasks require a lot of prep and change frequently, making it hard to keep everything organized. ”

“ It's impossible to give the enrichment to the higher kids and support to the lower students when we're teaching in a whole group for the entire math block. ”

“ This curriculum introduces too many things at once and moves too fast, which is often confusing for our students ”

“ Math anxiety at the Grade 4 level is a significant hurdle, impacting students' confidence and willingness to participate ”



Findings

Twenty-six teachers provided comments on additional challenges, with the following themes emerging from at least five responses each:

Enrichment Opportunities and Curriculum Difficulty: Teachers reported a lack of enrichment materials for students who complete tasks quickly, leading to boredom. In accelerated classes, students often finished assignments too early. Additionally, the curriculum was sometimes too challenging, particularly for younger students or those with weak foundational skills, necessitating extensive supplementation to engage all learners.

Pacing and Skill Mastery: The fast pace of the curriculum created issues, especially for absent students or newcomers. Teachers noted that rapid lessons left insufficient time to review and master previous skills, causing confusion and hindering retention. Many students struggled, particularly those without strong multiplication and division skills from earlier grades.

Vocabulary and Language Challenges: Complex vocabulary and language in the curriculum were problematic, particularly for EMLs and students transitioning from other programs. Students often required additional support to understand math terminology, with bilingual students facing extra difficulties in grasping academic language and assessment expectations.

Teacher Support and Instructional Challenges: The demands for lesson preparation and materials management were noted as burdensome, complicating lesson planning. Performance tasks were prep-intensive and required frequent material changes. Additionally, math anxiety affected some students, impacting their confidence and engagement. There was a strong call for more support structures, such as tutoring, to enhance mastery and confidence in math.



Results: Staff Surveys

Other Challenges Reported by Instructional Leaders (N=81)

Instructional leaders reported ...

“ Again, time to address challenges is an issue when there are students of differing abilities in the classroom. ”

“ Some students really need to have instruction slowed down and there is no time to do so. ”

“ Having time to use assessment data for reteaching opportunities before shifting to new content. ”

“ Many of my EML students have large learning gaps, which makes it difficult for them to access the on-grade curriculum. Even when using Equip this is a challenge. ”

“ Teaching a Eureka lesson in 60 minutes in a real world classroom is a challenge for even a master teacher. ”

“ The MCPS pacing guide does not allow for foundational days to any time to slow down, review, or reteach. ”

“ No differentiated resources are included, seems like a 'one-size-fits-all' curriculum, we have many students who are performing below grade level for a variety of reasons and it is hard to catch them up. ”

“ More math intervention options are needed, as are human resources to provide them. Water cannot be squeezed from a stone. Without the resources, progress cannot be optimal. ”

“ One problem that I have encountered is supporting students with understanding word problems. In this regard iReady has better visuals for word problems, especially in the online lessons. ”



Findings

When asked for additional challenges through open-ended comments, 81 instructional leaders reported several challenges with the math instruction; challenges by 10 or more are reported:

Pacing and Time Constraints. Teachers noted that the curriculum's rapid pacing hindered their ability to offer comprehensive lessons and adequate reteaching within the 55 to 60-minute math blocks. They found it difficult to use assessment data effectively or provide targeted feedback due to the lack of review days and insufficient time for foundational skill mastery.

Lack of Differentiation and Curriculum Limitations. The curriculum's one-size-fits-all approach and complex, language heavy content posed significant challenges for diverse learners, including EMLs and students with special needs. Teachers reported struggles with differentiation due to time constraints and limited resources, which impacted their ability to address individual learning gaps.

Support, Resources, and Teacher Preparedness. Insufficient staffing and resources were major barriers, especially for students needing extra support. Gaps in Tier 3 interventions for general education students outside Title I schools were noted. Teachers also highlighted the need for more professional development to improve small group instruction and differentiation, as well as better preparedness to support students with specific learning needs.

Student Engagement and Motivation. The rapid pace and complexity of lessons led to frustration among students, particularly those with learning gaps or language barriers. Teachers expressed a need for more engaging, real-world connections in lessons but were often constrained by time, affecting overall student motivation and engagement.



Results: Staff Surveys

Optimizing Effectiveness of Math instruction

The open-ended question posed to teachers—"What actions do you believe your school or district should implement to ensure effective mathematics instruction for every student, allowing them to achieve grade-level proficiency and meet standards?"—revealed several key themes.

Here are several recurring themes that emerged from the feedback gathered (N=162) from respondents about specific actions that can be taken:

Actions for Enhancing Elementary Math Instruction Identified by Teachers

Prioritize Curriculum Effectiveness and Alignment

- Implement a new Pre-K curriculum that aligns with literacy and themes.
- Conduct a thorough analysis of the Eureka Math curriculum and ensure its alignment with MAP assessments.
- Adopt a curriculum that emphasizes a true CRA (Concrete, Representational, Abstract) approach, that includes robust remediation and review of major grade level concepts.

Enhance Interventions and Support

- Create a well-scripted intervention program for students who fall behind in math.
- Provide actual opportunities within the curriculum for students to address gaps from previous years.
- Increase math intervention opportunities during the school day for students not meeting grade-level standards.
- Initiate early intervention strategies for students lacking foundational skills from prior grade levels.
- Provide consistent math interventions and ensure special education services are effectively delivered

Foster Flexibility and Teacher Autonomy

- Involve classroom teachers in the evaluation and selection of math programs to ensure practical applicability.
- Allow for greater flexibility in the pacing guide to accommodate student needs and include review days.
- Restore autonomy to teachers in designing high quality lessons tailored to their classroom dynamics.

Share and Implement Effective Instructional Practices

- Provide ongoing small group instruction to reinforce foundational skills.
- Encourage students to memorize basic math facts and incorporate hands on, engaging learning activities.
- Allocate more time for math instruction and reduce reliance on complex word problems that hinder comprehension.
- Ensure assessments align with taught content to accurately measure student mastery.

Improve Resource Availability

- Enhance support for EMLs, especially those at levels 1 and 2, by providing tailored resources.
- Ensure all students needing access to iReady Math can utilize it without restrictions.
- Identify and supply supplemental resources for enrichment and targeted interventions.

Strengthen Foundational Skills

- Prioritize the development of foundational math skills, especially in addition and subtraction with regrouping and place value.
- Emphasize mastery of basic math facts in early grades to build student confidence and reduce anxiety.

Prioritize Engagement and Instructional Quality

- Shift towards a more child-centered, hands-on curriculum that promotes student engagement and enthusiasm for math.
- Establish schoolwide norms for cross grade-level planning that emphasize foundational skills.

Utilize Evaluation and Feedback Mechanisms

- Encourage schools to evaluate instructional methods and allow peer observations of effective Eureka lessons for improved practices.
- Review district assessments by standard to identify areas needing reteaching and adjust instructional strategies accordingly.

Promote Community and Parental Involvement

- Offer training sessions for families, such as math nights, to support their children's learning at home; providing summer programs and supplies that reinforce learning outside the school year.



Results: Staff Surveys

Recommended Topics and Activities for PLOs for Teachers

The following themes surfaced from the open-ended question posed to instructional specialists: "What topics, activities, or strategies would you suggest for next year's professional development sessions for specialists (e.g., ELD, school math representative, math focus teachers, etc.)?"

Themes

Based on open-ended responses from instructional leaders (N=129), several key topics and activities for future PLOs were identified.

- 1 Emphasizing Vertical Instruction and Standards Progression:** There is a need to explore the progression of mathematics standards across grade levels, with strategies tailored to align instruction with the Common Core State Standards (CCSS) to ensure continuity in skills and concepts.
- 2 Advocating for Effective Math Instruction Practices:** Setting clear expectations for effective math instruction is crucial, with an emphasis on mastering foundational skills and conceptual understanding to foster student achievement.
- 3 Implementing Engagement and Discourse Strategies:** Techniques to actively engage students in their learning are essential. Balancing teacher-led and student-led discussions can foster independence in problem-solving and enhance classroom participation.
- 4 Addressing Gaps and Differentiation:** Strategies for customizing lessons and interventions for students performing below grade level are important. The flexibility within the Eureka curriculum should be showcased to accommodate varying learning needs.
- 5 Enhancing Assessment Practices:** Effective use of formative assessments is critical for monitoring student understanding and guiding instruction. Meaningful feedback on summative assessments is needed to inform targeted interventions.
- 6 Integrating Language Development:** Blending English Language Development (ELD) components into math instruction is a felt and identified need. Enhancing communication skills through oral practice and writing tasks that connect with mathematical concepts supports language acquisition.
- 7 Elevating Instructional Routines and Mathematical Discourse:** Implementing effective instructional routines is necessary to promote student engagement and articulate reasoning in mathematical conversations, deepening understanding of concepts.
- 8 Fostering Collaboration and Professional Development:** Supporting collaboration among specialists through the sharing of best practices is essential. Continuous professional development is crucial for adapting curricula to meet the variety of student needs within a classroom.
- 9 Providing Concrete Resources for Instruction:** Practical resources and strategies for differentiated instruction are needed. Equipping specialists with effective tools to support learning requirements to meet varying student needs, particularly for low-achieving learners and students with special needs, is imperative.



Results: Staff Surveys

Recommended Topics and Activities for PLOs for Teachers

The following themes emerged from the open-ended question posed to instructional specialists, "What topics/activities/strategies would you recommend for next year's professional development sessions for teachers?"

The following **themes and associated topics and strategies** for future PLOs for teachers were identified based on open-ended feedback (N=129):

Coaching for Change and Accountability

Topics: Best practices for coaching teachers, establishing accountability measures.

Strategies: Implementing peer observation and feedback sessions.

Activities: Workshops on reflective practices and goal-setting for instruction.

Resource Development for Diverse Learners

Topics: Creating and utilizing resources for IEP and ELL students.

Strategies: Designing manipulatives and visual aids tailored for different learning styles.

Activities: Hands-on sessions where teachers develop and share resource banks (e.g., fraction bars, skip counting charts).

Targeted and Coordinated Instructional Supports for Students Receiving ELD and Special Education Services

Topics: Differentiation strategies in math for EMLs and students with IEPs.

Strategies: Co-teaching models that integrate language and content support.

Activities: Role-playing and scenario-based workshops on effective co-teaching techniques.

Intervention and Acceleration Strategies

Topics: Identifying and addressing learning gaps in foundational skills.

Strategies: Developing tiered intervention plans that integrate into daily instruction.

Activities: Collaborative planning sessions focused on back mapping and creating intervention frameworks.

Data-Driven Instruction

Topics: Utilizing assessment data to inform instructional practices.

Strategies: Training on data analysis and interpretation to guide interventions.

Activities: Case study discussions where teachers analyze real student data and develop instructional responses.

Vocabulary and Language Development in Math

Topics: Strategies for teaching math vocabulary to students learning English and those with IEPs.

Strategies: Incorporating language objectives into math lessons.

Activities: Interactive workshops on developing vocabulary games and activities that support ELLs and SPED students.

Collaborative Planning and Professional Learning Communities (PLCs)

Topics: Effective collaboration strategies for instructional planning.

Strategies: Establishing structured PLCs focused on math instruction.

Activities: Facilitation training for leaders to guide productive planning sessions and sharing of best practices.

Customized Instructional Practices

Topics: Customizing math lessons to meet varying needs of students.

Strategies: Scaffolding techniques for varied proficiency levels.

Activities: Lesson study groups where teachers collaboratively design and critique customized lessons.

Sustaining Engagement and Motivation in Professional Development

Topics: Innovative approaches to professional learning in math.

Strategies: Incorporating interactive and relevant content in PD sessions.

Activities: Brainstorming sessions for new PD topics, including teacher-led presentations on successful strategies.

Support Structures for Implementation of Curriculum

Topics: Effective implementation of the Eureka Math curriculum.

Strategies: Developing pacing guides and support resources for teachers.

Activities: Curriculum study sessions to explore challenges and share solutions in implementing Eureka Math.



Results: Staff Surveys

Recommended Topics and Activities for PLOs for Teachers

The following themes emerged from the open-ended question posed to instructional leaders: "What topics/activities/strategies would you recommend for next year's professional development sessions for teachers?"

Illustrative Comments from Instructional Leaders for PLOs Recommended for Teachers and Instructional Leaders

For Teachers

“What is actual grade level expectation and what is acceleration.”

“Ways to incorporate more active learning and discussion-how to make it engaging, and use the student data.”

“Understanding the Flow of Eureka Lessons with Grade-Level Standards”

“The process of taking a Eureka lesson and being able to plan from it... identifying the key components of the lesson.”

“Upper elementary teachers need support in building/developing/teaching foundational math skills within the math block; while teaching grade level content and whole group lesson.”

“Support for struggling students and students needing enrichment.”

For Specialists

“How to implement Eureka Math Equip with fidelity. Start to finish-launching and determining where to start with the supporting content lessons.”

“How to coach for change - hold staff accountable for different engagement in planning and DIFFERENT delivery in instruction”

“Accelerating EMLS and students with IEP in math. Addressing vocabulary needs and those of EML students”

“How to rework math block to better support students of different levels.”

“Best practices implementing interventions outside of the math block.”

“ELD-how to effectively coteach during the math block. How to better support students with IEPS”

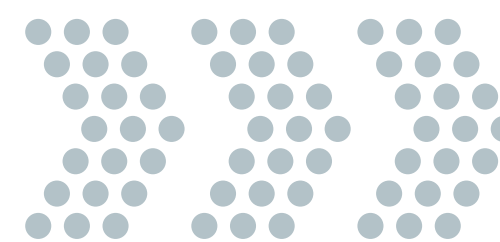
“Lesson Preparation and Customization workshops where teachers practice customizing lessons they will teach to address different student needs.”

“Differentiation and a Vertical Understanding of the CCSS expectations. Content knowledge.”

“Any training on meeting differentiated needs of students and/or modifying fluency to build core concepts.”



Summary of Findings



Math Block

Schools scheduled math blocks in a variety of ways; most schools had a single block for each grade. For lower grades, 57% of K classes and 49% of Grades 1 and 2 had afternoon classes. A majority of schools (55%) reported they did not departmentalize mathematics at any grade level. In schools that departmentalized Grade 4, 39% and 51% of students were departmentalized. For pre-K, Kindergarten, and Grades 1 and 2, the reported math instruction time averaged 40 minutes, while Grades 3 to 5 averaged 78 to 79 minutes, with medians around 75 minutes.

Eureka Math Lessons

In the observed classrooms, key aspects of lesson setup—including class schedules, learning goals, and expectations—were consistently evident, in over 80% of classrooms. Specifically, class schedules were posted in 86–89% of classrooms, learning goals were communicated in 93–97%, and class expectations were outlined in 83–94% of classrooms. The implementation levels of Eureka Math lesson components varied across grades, with high fidelity ($\geq 75\%$ of classrooms) observed in Fluency Practice and Concept Development components for all grades—Grade 1 at 98% and 100%, Grade 3 at 94% and 100%, and Grade 5 at 80% and 100%. The Application Problem component was observed in 81% of Grade 1, 94% of Grade 3, and 74% of Grade 5 classrooms. Moderate levels of fidelity (55–65% of classrooms) was noted in the Debrief and Exit Ticket components. While most components were completed within target times, a number of actions expected of students or teachers were skipped. The use of effective instructional routines linked new learning to prior knowledge and maintained student engagement in majority of Grades 1, 3 and 5 classrooms. Peer discussions were effectively utilized in 67% of Grade 3 classrooms, and explicit classroom discourse was evident in 50% of Grade 5 classrooms. Tier 2 activities, a form of differentiation based on student needs, were observed in fewer than half of the classrooms; and providing additional challenging problems or enrichment activities to extend student learning enrichment was observed in a third of the lessons observed (33%).

Successful Aspects

Open-ended responses from instructional leaders (N=147) elicited many successful aspects of the elementary math instructional program. Instructional leaders emphasized the importance of structured learning progressions, such as the RDW method and aligned homework, which enhance student understanding and provide valuable assessment insights. Additionally, the availability of comprehensive instructional resources and engaging learning strategies, including game-based practices and manipulatives, supported differentiated instruction for diverse learners. Similarly, teachers (N=102) recognized the effectiveness of the Eureka Math program, noting it is consistent and structured curriculum that facilitates concept progression and fluency practice. They praised the utility of exit tickets for assessing understanding, the inclusion of daily problem sets for real-world application, and the comprehensive instructional materials that support differentiated learning. Overall, instructional leaders and teachers alike indicated that these aspects contributed to student engagement, motivation, and achievement in mathematics.



Summary of Findings



Challenges

With regard to instructional needs of students, most instructional leaders (94%) and most teachers (82%) reported that students struggled with solving multi-step problems. Furthermore, 86% of leaders and 65% of teachers reported that students often had difficulty constructing viable arguments. The language of mathematics was identified as a challenge by 83% of leaders and 65% of teachers, while foundational math skills were identified as a challenge by 84% of leaders and 53% of teachers. Most instructional leaders reported challenges in planning and delivering effective instruction, particularly addressing a range of needs in the same classroom (93%) and closing learning gaps (96%). Related challenges included managing a wide range of needs within single classes, supporting English Learners (EMLs), implementing IEPs, balancing lesson completion with individual student requirements, maintaining student motivation, providing enrichment and acceleration opportunities, and delivering timely feedback..

Open-ended responses further elaborated that the rapid pacing of math lessons and time constraints often hindered the delivery of comprehensive lessons within 55 to 60-minute blocks. The curriculum's one-size-fits-all approach and complex, language-heavy content posed difficulties for many groups of learners, including EMLs and students receiving special education services. Insufficient staffing and resources further exacerbated these issues, especially for students needing extra support, and limitations in Tier 3 interventions and staffing to deliver them consistently were identified. Maintaining student motivation was challenging due to the rapid pace and complexity of lessons, which often frustrated students with learning gaps or language barriers.

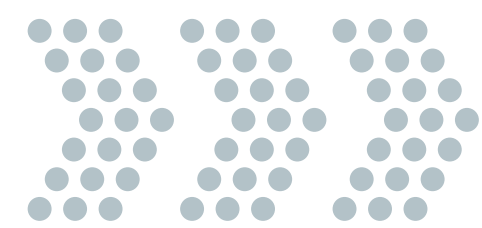
Areas Needing Improvement

To improve the effectiveness of the elementary math program, staff proposed several actionable improvements. These included increasing resources for EMLs, ensuring unrestricted access to iReady Math, and providing supplemental enrichment materials. Emphasis was placed on reinforcing foundational skills in addition, subtraction, and basic math facts. Staff recommended adopting a child-centered, hands-on curriculum and engaging in cross-grade-level planning to strengthen these foundational skills. Additionally, implementing peer observations were suggested to refine instructional practices. Engaging parents through math nights and summer programs was deemed essential for reinforcing learning, while fostering teacher autonomy in program selection and ensuring alignment between assessments and taught content were also advised.

For the upcoming year, the open-ended responses elicited many recommendations for PLOs to improve instructional practices and enhance student outcomes in mathematics. These included enhancing collaboration among staff, refining instructional strategies and interventions, enhancing skills in using curriculum resources optimally, and creating meaningful assessments, and how best to address student learning gaps through targeted support and differentiation.



Recommendations



The recommendations are drawn from findings in this study and the stated vision of the elementary math program. They focus on ways to improve instruction, maximize use instructional resources, and tackle challenges like pacing and differentiation to create an effective and fair educational setting.

1

Implement a checklist to ensure all essential component of a math lesson are delivered and time management strategies are in place.

To increase lesson effectiveness and fidelity, it is essential to implement clear protocols for lesson planning and time management. The study indicated that some activities within the Eureka Math lesson, such as Debriefing and Exit Tickets, were not executed as required or consistently across the lessons observed. This is likely due to time constraints and curriculum pacing. Even with already available scripted Eureka Math lesson, structured lesson plan with a detailed time breakdown is necessary to ensure all critical components are covered within the 55 to 60-minute timeframe. To increase fidelity, these steps would be helpful:

For Teachers:

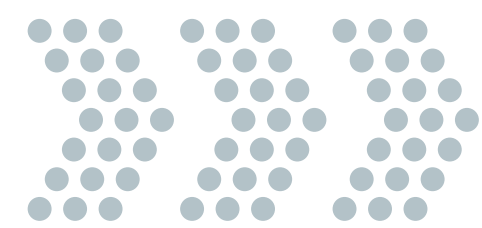
1. Use existing Eureka Math lessons to develop structured lesson plans that include contingency strategies for unexpected situations (e.g., student questions).
2. Review each lesson and adjust timing or activities as necessary while maintaining focus on core objectives.
3. Establish a peer-review system, at the grade-level, where colleagues can provide feedback on how effectively time is managed during the lesson and offer improvement suggestions.

For Instructional Leaders:

1. Conduct regular professional development workshops focused on effective time management strategies.
2. Create a self-assessment checklist for teachers to evaluate their adherence to recommended timeframes and adjust pacing strategies accordingly.
3. Provide ongoing monitoring and support through walkthroughs or observations to ensure lessons are delivered as designed.



Recommendations



2

Create a clear set of instructional strategies that teachers can use to facilitate peer discussions.

Peer discourse is a key strategy for learning in Eureka Math. However, the study showed that peer interaction routines were not executed consistently or frequently enough, limiting collaborative learning opportunities. To address this, prioritizing the integration of structured peer-to-peer activities in every math lesson to create a more interactive classroom atmosphere is needed.

For Teachers:

- Increase use of collaborative learning structures like pair-share, small-group discussions, or think-pair-share into each math lesson, ensuring all students have regular opportunities for peer discourse.
- Develop a set of instructional strategies that can support effective peer discussions, encouraging students to explain their reasoning, share solutions, and build on each other's ideas.

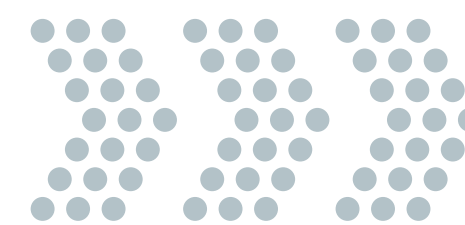
For Instructional Leaders:

- Offer professional development on peer discourse strategies to help teachers integrate these practices consistently.
- Monitor the implementation of peer interaction routines through classroom observations and feedback, ensuring they occur regularly and contribute meaningfully to student learning.

3

Increase support for students with IEPs, EMLs, and those struggling with learning math.

Staff feedback revealed that the Eureka Math curriculum falls short in adequately addressing the needs of students with IEPs, EMLs, or those who struggle with mathematics, which consequently restricts their learning experiences. This issue is not exclusive to MCPS; research highlights the critical need for equity in math education, showing that EMLs often have less meaningful access to math content and display lower engagement levels compared to their non-EML peers (Cho et al., 2022; Suh, 2020). These findings, along with evidence pointing to the necessity for strategies to close learning gaps and enhance math instruction for students with foundational deficits, emphasize the importance of modifying instructional approaches. There is a clear need for lesson designs and instructional strategies that effectively combine development in language and mathematics, ensuring equitable learning opportunities for all students.



4

Implement regular, school-wide practices for monitoring student progress and provide Tier 2 and Tier 3 interventions based on emerging needs, ensuring that support is timely and consistent

To ensure that all students meet grade-level expectations, it is essential to offer consistent and targeted support for those who are struggling, a strategy that is expected to be integrated in instruction through the MTSS framework (MCPS, 2024b). However, data from this study indicates that Tier 2 and Tier 3 supports may not be utilized effectively. By increasing attention to concerted Tier 2 and Tier 3 support, schools can help struggling students achieve grade-level proficiency, ensuring that all students receive the necessary resources to succeed in math. Therefore:

- Conduct regular progress monitoring to identify students who may need Tier 2 or Tier 3 support, allowing for timely interventions before gaps in understanding widen.
- Align staffing and resources to provide focused support for students requiring intensive interventions, including dedicated personnel for Tier 3 support or additional resources for those who are struggling.
- Provide training for staff on differentiated instruction techniques, enabling them to deliver effective interventions tailored to each student's unique challenges at varying levels of need.
- Integrate Tier 2 and Tier 3 data into lesson planning, ensuring that teachers understand their students' needs and can adjust instruction accordingly.
- Establish structures to seamlessly coordinate and incorporate Tier 2 and Tier 3 interventions within the math block, offering small-group instruction or individualized support at specific times in the lesson, so students are not pulled out during critical instructional periods.

5

Create unified strategies for overseeing the adoption of a consistent intervention model across schools and grade levels.

Feedback regarding math planning, especially in relation to Tier 3 supports, indicates that numerous schools struggle to provide these interventions due to factors like staff shortages and scheduling challenges. It is crucial to ensure that intervention models are consistently applied across all grade levels by effectively utilizing resources such as EQUIP, Delta Math, and *iReady* when suitable. To address staffing and resource issues for Tier 3 support, it is essential to secure dedicated personnel for these interventions, reducing reliance on temporary part-time staff who are often reassigned to meet urgent needs within the school. Furthermore, establishing math intervention schedules that do not conflict with other subjects is important, as is standardizing the use of intervention tools to enhance effectiveness and minimize inconsistencies. Research indicates that explicit and systematic interventions yield positive results (Shujaa, 2022). Additionally, it is imperative to ensure that pulling students from math class for interventions, ELD, or special education services does not disrupt their learning experience or hinder their progress in math proficiency.



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