Maryland's Largest School District

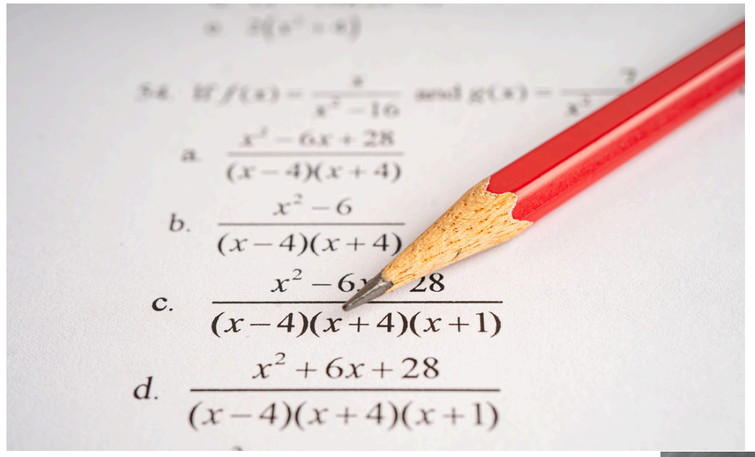
MONTGOMERY COUNTY PUBLIC SCHOOLS

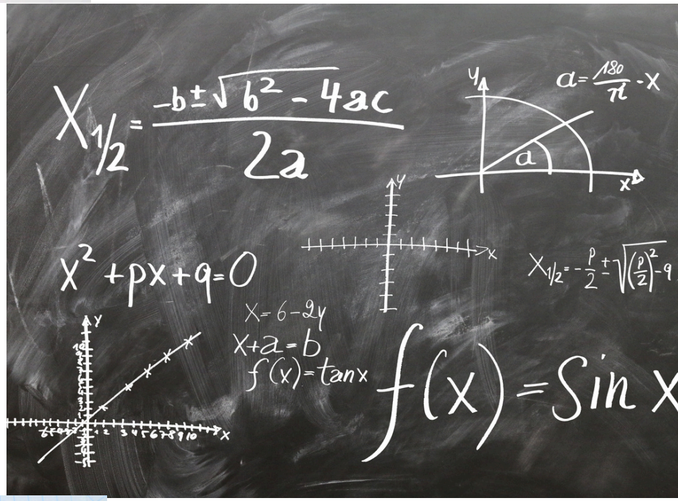
Expanding Opportunity and Unleashing Potential

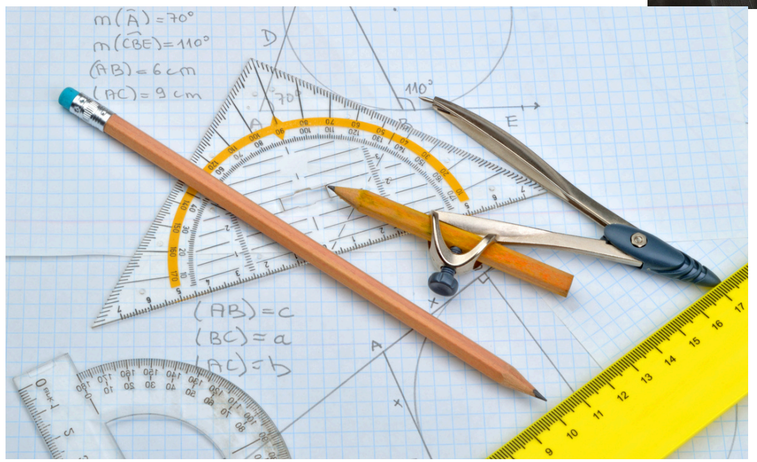
Instructional Mathematics Coaches

Implementation Evaluation

July 2024







Prepared by:

Michael Samuels, Ed.D.

Shared Accountability

Instructional Mathematics Coaches

Executive Summary

Impact on Instructional Practices and Pedagogy

Evaluation Scope

The evaluation of the instructional mathematics coaches (IMC) initiative during the 2023–2024 school year focused on the first-year implementation of mathematics coaches in 47 elementary and middle schools. Twelve coaches were assigned to these schools based on specific criteria to provide support to mathematics teachers. This study investigated: 1) the perception of teachers on the effectiveness of the coaching activities, 2) the extent to which teachers report any new knowledge resulting from engagement with the coach, and 3) the impact on teachers' instructional practices.

Methods

To assess the implementation of the program, an online survey was administered to teachers, administrators, and mathematics leaders. The response rates were 47% for teachers (n=103) and 34% for administrators and mathematics leaders (n=18). Twelve observations were conducted of Professional Learning Communities (PLC) and five mathematics content specialists were interviewed.

Results

The frequency of coach activities in schools varied from once per week to every other week. According to survey responses, 46% of teachers indicated they worked with a coach at least once per week, 36% interacted with a coach twice per week, and 12% reported varied frequencies such as once per month or every other week. The frequency of the coaching activities depended on the changes in the school's schedule, and the other roles that teachers might have within the school.

The majority of the teachers (47%) were unaware of the reason for being selected for coaching. Notably, 27% provided varied reasons for their participation, such as their specific role in the school, school performance, random selection, and the school's classification as Additional Targeted Support and Improvement (ATSI).

Teachers, administrators, and mathematics leaders reported that the placement of an instructional mathematics coach at their school resulted in changes in instructional skills, and pedagogical knowledge, as well as improved student thinking and achievement. Eighty-three percent of teachers reported having a better understanding of the curriculum and 72% indicated an improvement in content knowledge. Similarly, 74% of administrators and mathematics leaders noted improvement in the teachers' content knowledge. Additionally, 59% of teachers and 58% of administrators and mathematics leaders observed a positive impact on student achievement.

In general, teachers were most often engaged with the coach in lesson planning and curriculum study (94%), classroom observation (76%), and data analysis (64%). Other activities such as lesson modeling, and co-teaching were reported by fewer than 50% of teachers as being carried out by the coach.

Instructional Mathematics Coaches

Executive Summary

Impact on Instructional Practices and Pedagogy

Results

In the open-ended survey questions and interviews, teachers, administrators, and mathematics leaders highlighted both the benefits and challenges associated with this iniative. The primary benefits included improvements in student-centered instructional strategies used by teachers and a deeper understanding of the curriculum. The challenges identified were time constraints, insufficient and untimely feedback, and the cultivation of trust.

To maximize the use and effectiveness of the coaches several recommendations were made that included, 1) providing clarity regarding the roles of the coach and expectations for teachers, 2) differentiating the support provided to teachers, and 3) offering continuous professional development. Additionally, teachers emphasized the need to build authentic relationships between teachers and coaches to reduce resistance to the coaching initiative.

Conclusion

The results demonstrated that the introduction of instructional mathematics coaches to schools has positively impacted teachers' pedagogical knowledge, instructional skills, and ability to elicit more student thinking. However, some challenges arose out of the implementation of the program. Teachers highlighted issues such as distrust between them and the coach, inadequate and untimely feedback, insufficient professional development opportunities, and lack of clarity about why they were selected for coaching. These challenges have hampered the program's effectiveness and efficiency.

Evaluation Scope

Background

The purpose of this evaluation was to examine the implementation of the instructional mathematics coaches model at select elementary and middle schools. The evaluation provided insights as to the effectiveness of this initiative in supporting mathematics teachers and achieving the district's mathematics goal. Additionally, the study examined how relevant stakeholders perceived the instructional mathematics coaches' support in their schools.

Mathematics coaches are teacher leaders who work primarily with classroom teachers to strengthen their mathematics content knowledge and their pedagogical practices (Ellington et al., 2012). The purpose of the instructional mathematics coaches program was to support the improvement of mathematics teachers at the elementary and middle school levels. It was designed to improve mathematics teachers' ability to understand the curriculum better, implement the curriculum with fidelity, and provide professional learning to increase teachers' content knowledge and improve instructional expertise.

Purpose of Evaluation

To examine the impact of the Instructional Mathematics Coaches model on mathematics teachers' instructional practices.

To describe and evaluate the implementation of the instructional mathematics coach model.

Evaluation Questions

1. How did mathematics teachers perceive the effectiveness of the professional learning, coaching, and support received from the instructional mathematics coach?
2. To what extent did mathematics teachers report any new knowledge and skills resulting from engagement with the instructional mathematics coach?
3. To what extent were the elements of the instructional mathematics coaches model implemented in the pilot schools?

Program Goals

To increase student mathematics achievement by improving the planning and teaching of mathematics through direct coaching and support.

To develop the content knowledge and instructional expertise of mathematics teachers at elementary and middle schools.

Program Components

Planning
Instructional mathematics coaches participate in the PLCs and support individual teachers in dissecting the curriculum and planning for effective instruction.

Coaching and Modeling
Coaches provide individualized coaching to teachers based on observations in the classroom.

Data Review and Analysis
Coaches engage in cyclical review of data with teachers to determine instructional needs and support.

Identification Criteria

- Additional Targeted Support and Improvement (ATSI) as determined by the Maryland State Department of Education
- Received a star rating of 2 on MSDE Report card
- Performance on district assessments (Greater than 50% scored below proficient)
- Emergent Multilingual Learners' (EML) performance on district assessments (Greater than or equal to 50% scored below proficient)

Program Description

The instructional mathematics coaches model was specifically focused on strengthening and extending MCPS' priority on designing and implementing a rigorous and culturally proficient curriculum and instructional program (MCPS, 2023). The Fiscal Year 2024 operating budget included the addition of 12 instructional mathematics coaches for elementary and middle schools. The adopted budget allocated $1,792,553 for two supervisors, three instructional specialists, and 12 mathematics coaches.

Coaches were assigned to 47 elementary and middle schools based on certain criteria. At the elementary school level, eight coaches were assigned to 33 schools. The coaches worked with different grade-level PLCs based on the recommendation of the school's administrator. Four coaches were placed at 14 middle schools and assigned to all mathematics courses offered at the middle school level except geometry. The PLCs selected for coaching were determined by the secondary mathematics office in consultation with each school's administrator, content specialists, and mathematics leaders.

The coach-to-school ratio was one to four. At the middle school level, based on the school's mathematics data, two coaches worked in tandem to support that school.

The instructional mathematics coaches were centrally assigned to schools to support mathematics instruction. The purpose of the instructional mathematics coaches program was to build mathematics teachers' capacity and provide consistent support and strategic coaching to develop and improve instructional expertise, job-embedded professional learning, data analysis, and improvement in student outcomes in mathematics (see appendix).

Methods

Overview

A non-experimental mixed-method design was used to assess the effectiveness of the instructional mathematics coaches model in supporting, and improving the pedagogical skills and content knowledge of mathematics teachers. An observational tool was employed to gather data on the coaching and planning components of the program. Surveys were used to gauge the perception of mathematics teachers, mathematics leaders, and administrators about the merits of the program. In addition, a random sample of mathematics leaders and administrators were interviewed.

Data & Measures

- An online survey was administered to mathematics teachers in the 47 elementary and middle schools. A random sample of 53 administrators and mathematics leaders also were invited to participate in the survey. Survey data were collected between February and April 2024.
- Interviews were conducted with a random sample of five administrators and mathematics leaders between March and April 2024.
- A total of 12 PLC observations were conducted.

Sample

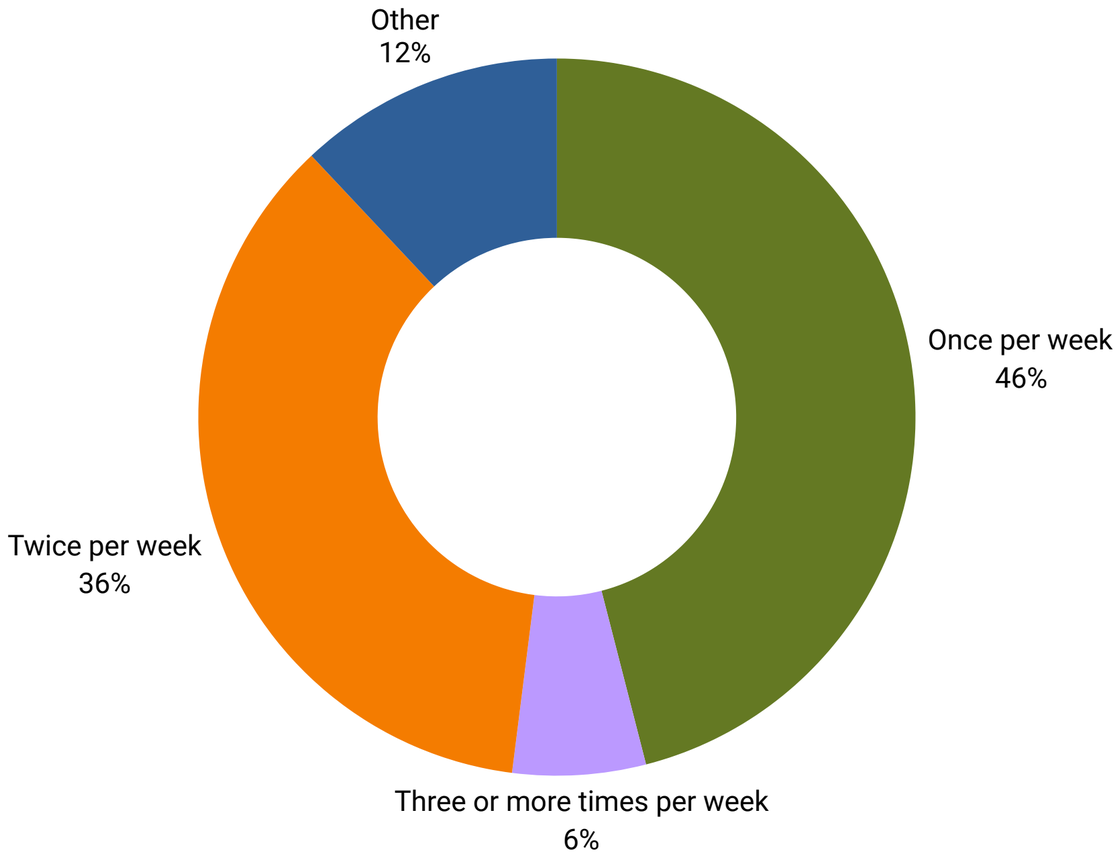
	Teachers	Administrators/Math Leaders
Number Surveyed	218	53
Number of Responses	103	18
Response Rate	47%	34%

Analysis

Descriptive statistics were used to analyze data from teachers, mathematics leaders, and administrators. The results served to describe the implementation of the instructional mathematics coach program, the perceptions of teachers and administrators and assess the impact on student mathematics outcomes. Open-ended survey items and interview transcripts were analyzed for common themes.

Results: Teacher Survey

Frequency of IMC coaching activities within schools (N=103)



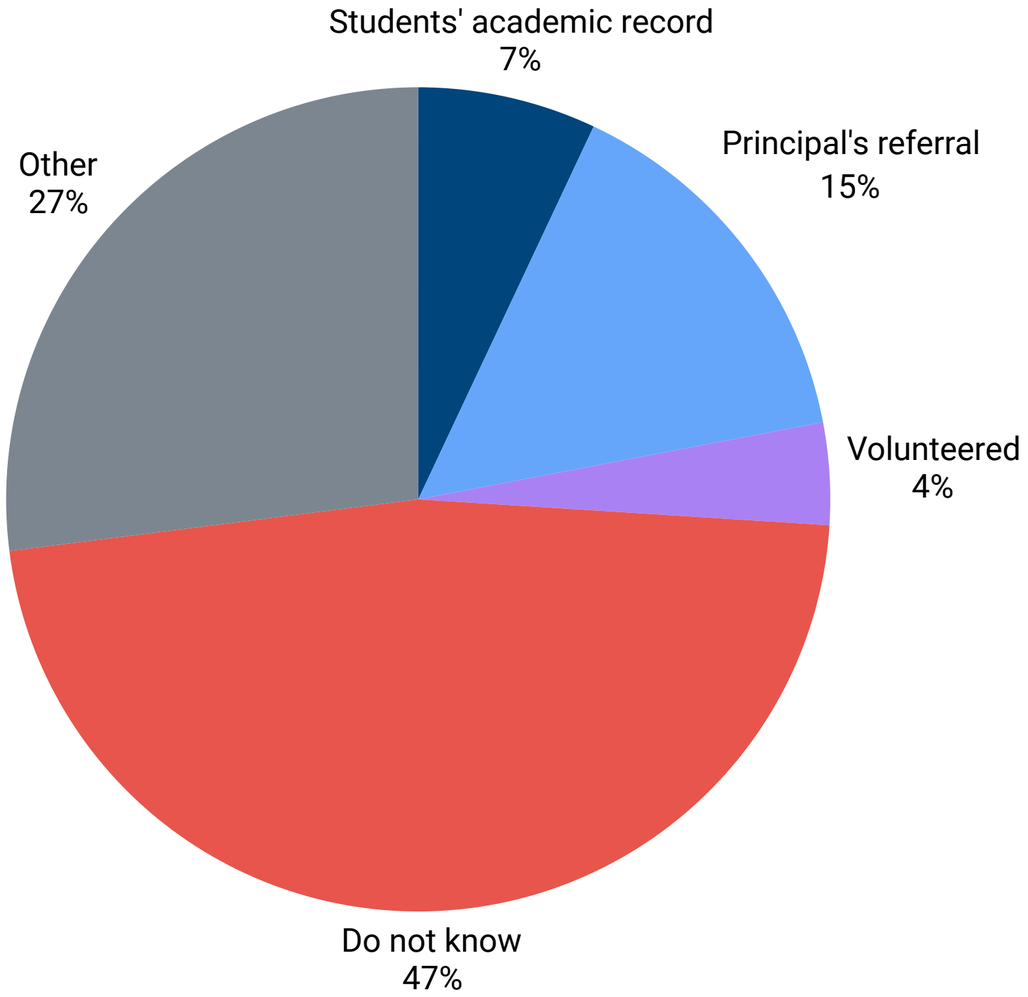
Findings

As detailed in the job description presented in Appendix A, instructional mathematics coaches were expected to support teachers by, providing coaching, professional learning, mentoring, lesson modeling, and curriculum planning.

Teachers reported working with the instructional mathematics coach between once and three times per week. The majority (46%) interacted with the coach once per week. Additionally, 36% received coaching twice per week. Only 6% indicated working with a coach three or more times per week. The remaining 12% provided varied responses, including, once per month, as needed, barely and every other week.

Results: Teacher Survey

How were teachers selected for coaching? (N=103)



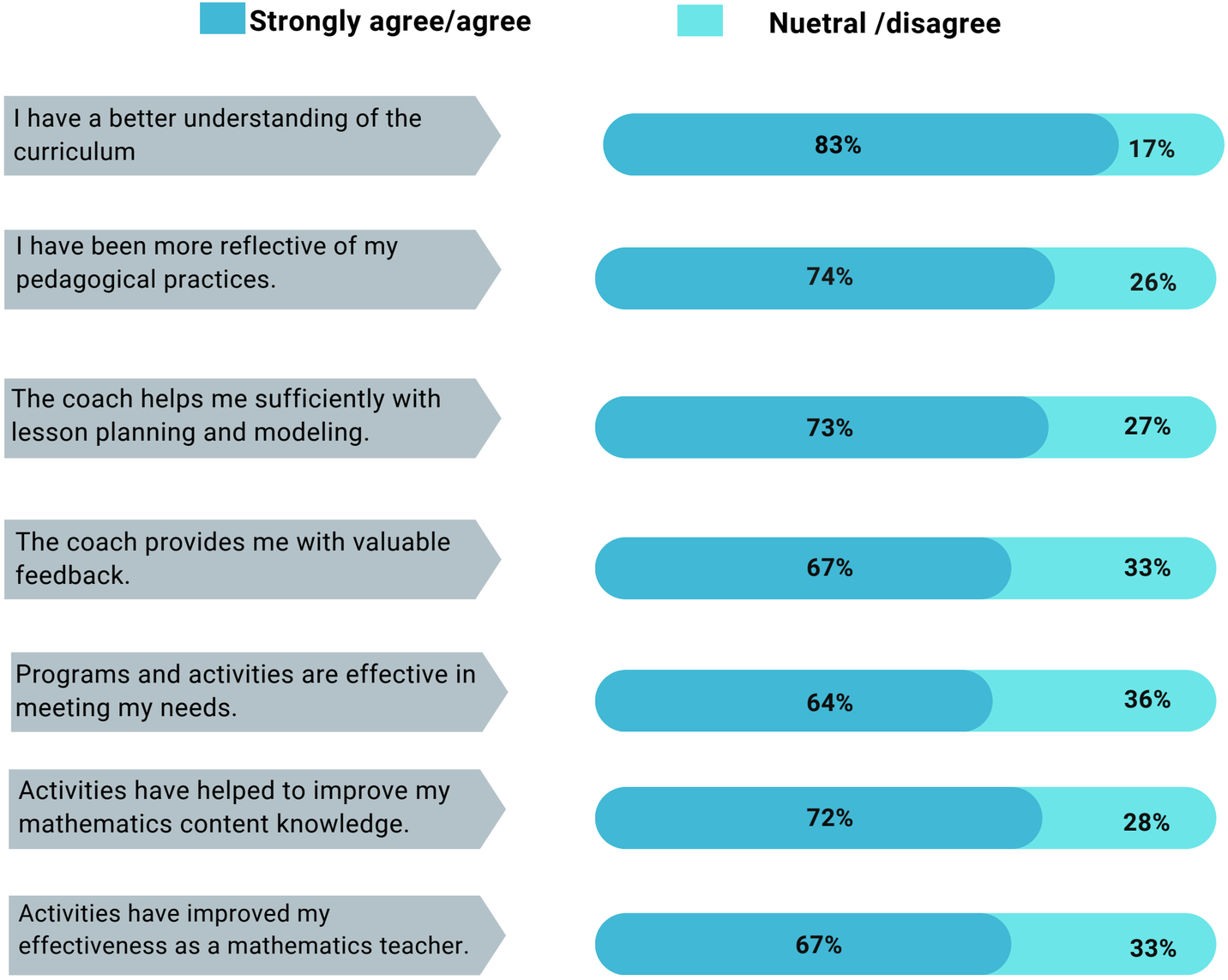
Findings

The chart presented here illustrates how teachers were selected for coaching. Almost half (47%) of the teachers indicated that they were unaware of the reason they were identified for coaching. Fifteen percent of respondents were referred by their administrators, while 7% indicated that their student academic records were the reason for their selection.

Additionally, 4% mentioned they volunteered to participate in the instructional mathematics coaching initiative. The remaining 27% provided varied reasons, including being randomly selected, school performance, the classification of the school as ATSI, and their specific roles and responsibilities within the school.

Results: Teacher Survey

Agreement with Statements About Working with IMC (N=103)



Findings

The data presented illustrate the extent to which teachers indicated positive changes in their skills, knowledge, and practices due to working with an instructional mathematics coach.

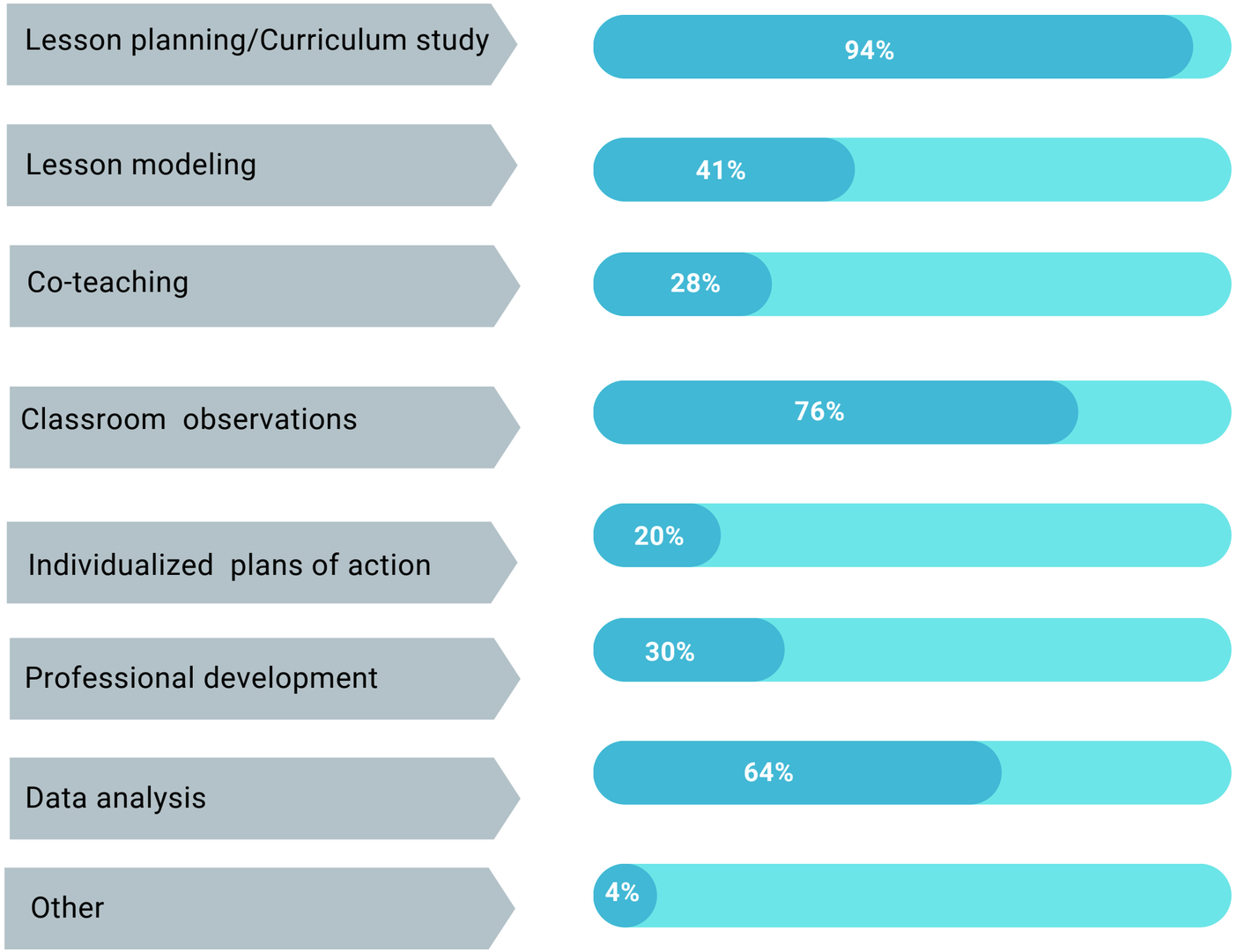
Overall, teachers reported improvements in their skills, knowledge, and practices. Among the findings, 83% of teachers reported having a better understanding of the curriculum, while 74% noted being more reflective of their pedagogical practices.

Over 70% of teachers indicated that they had become more reflective about their practices, saw improvements in their content knowledge, and found that working with a coach helped with lesson planning and modeling.

However, 67% of teachers reported receiving valuable feedback from the coach and felt that the coaching activities had improved their effectiveness. A slightly lower percentage (64%) found the coaching to be effective in meeting their needs.

Results: Teacher Survey

Activities engaged in with the IMCs (N=103)



Findings

Teachers are expected to engage with the IMC in various activities, such as co-teaching, lesson planning, and data analysis during the coaching process. The execution of these activities is determined by the coach.

Nearly all teachers (94%) reported participating in lesson planning and curriculum study with the instructional mathematics coach. Classroom observation was noted by 76% of teachers as a form of interaction with the coaches.

However, 64% of teachers identified data analysis as an activity that they were engaged in with the coach. Among other activities, 20% of the teachers indicated having an individualized plan of action, where the coach would work with them one-on-one to build their capacity.

Results: Teacher Survey

Impact on Student Outcomes and Achievement

Perception of Coaching Benefits (N=103)

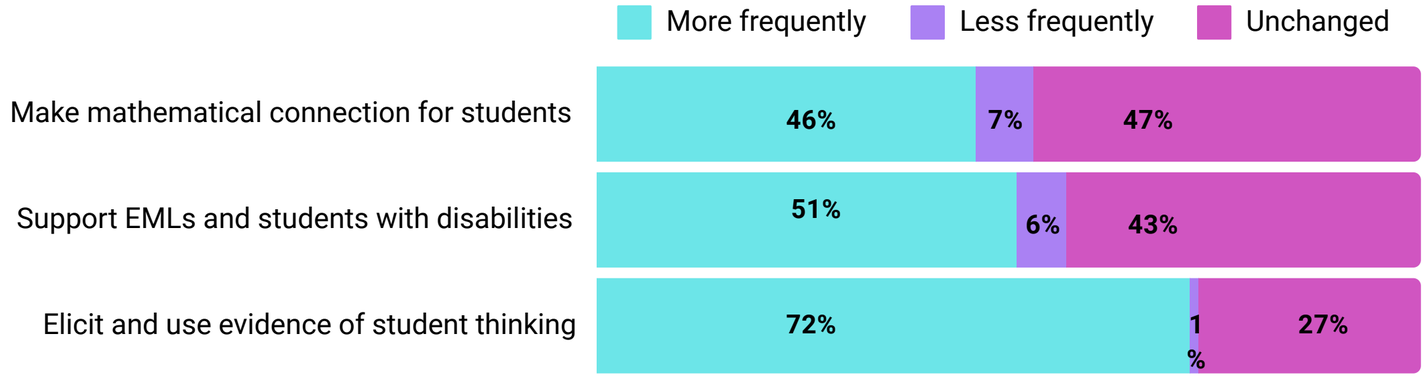
Findings

The data show how teachers perceived coaching activities to indirectly impact student achievement and outcomes. More than 50% of all respondents indicated that coaching has positively influenced student engagement, mathematical discourse, and achievement.

Sixty-nine percent of teachers stated that they were more purposeful in assigning activities to students, while 64% reported being better able to engage their students. Fifty-nine percent of teachers reported that they are now more effective at involving students in mathematical discourse. A similar percentage noted a positive impact on student achievement.

Results: Teacher Survey

Frequency of implementation of Strategies and Approaches (N=103)



Findings

The data provided illustrate the frequency with which teachers implemented strategies and approaches to support students.

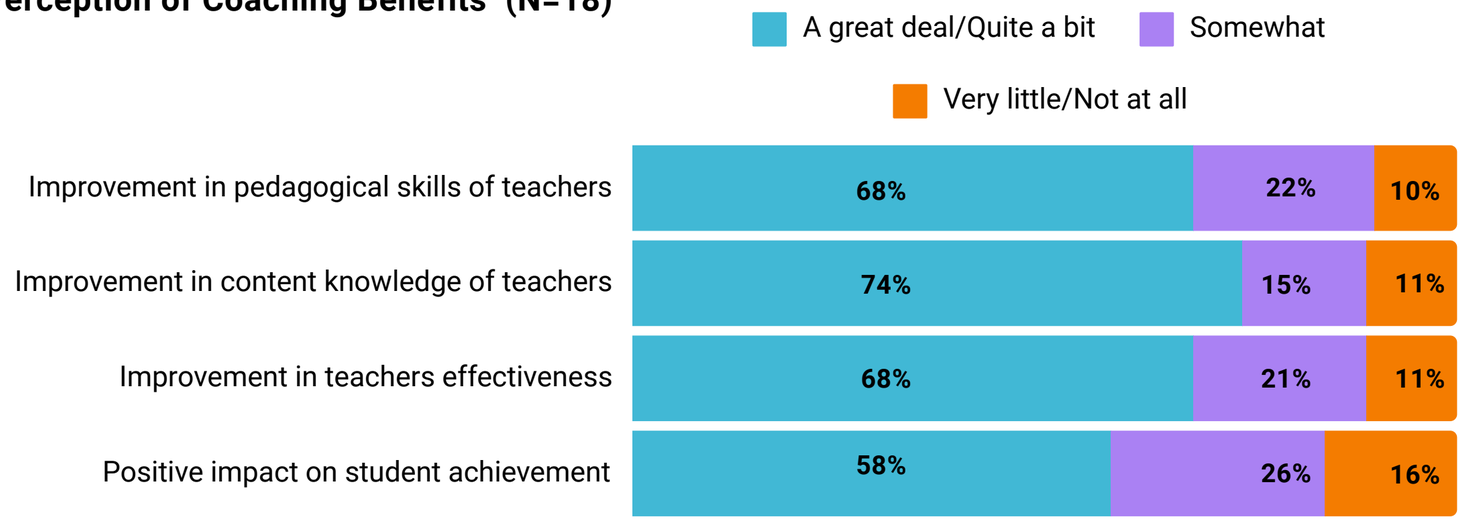
The majority of teachers reported an increase in the frequency of implementing strategies and approaches introduced by the coaches to support emergent multilingual learners, and students with disabilities, and to elicit and use evidence of student thinking. The most notable improvement was seen in the elicitation and use of student thinking, with 72% of the teachers indicating an increased frequency of implementation compared to 27% who stated no change.

In terms of implementing strategies aimed at making mathematical connections for students, the data showed a close split. Forty-six percent of teachers reported an increased frequency of implementation, while 47% stated no change.

Results: Administrator Survey

Instructional Practices and Pedagogy

Perception of Coaching Benefits (N=18)



Findings

The data presented show the extent to which administrators and mathematics leaders perceived the benefits to teachers and students as a result of having an instructional mathematics coach in their school.

In general, the majority of administrators and leaders indicated significant improvements in teachers' pedagogical skills (68%), content knowledge (74%), and overall effectiveness (68%) as a result of coaching activities. Additionally, 58% noted a positive impact on student achievement.

Results: Teacher Survey

Benefits of working with an Instructional Mathematics Coach

In an open-ended question, teachers were asked, **"What aspects of working with the instructional mathematics coach most benefit your teaching mathematics?".** The following themes emerged:

Student-centered instructional strategies: Through the expert and strategic guidance of the coach, teachers engaged in deliberate planning and prioritized thoughtful conversation around student discourse and meeting the needs of students. With the coach's guidance teachers effectively strategized the best delivery methods to improve student understanding and mastery of the key lesson concepts.

Deeper understanding of the curriculum through effective planning: Teachers described how having a coach during the curriculum study and planning helps them dissect the curriculum, determine where lessons are connected, and identify the main ideas of each lesson. Purposeful and effective lesson planning allowed teachers to gain a deeper understanding of the curriculum and implement strategies that resulted in deep student engagement. This deeper dive improved their pedagogical skills and instructional practices. The presence of the coach was particularly beneficial to teachers new to the curriculum who might not have time to explore its nuances. The coach, viewed as an expert with thorough understanding and knowledge, broke down the curriculum into mini-lessons and standards.

> "Looking at the instructional routines and ways to modify lessons for better understanding and engagement. Discussing language and ways to better foster discourse."

> "She helped to completely restructure our team planning into a standards focused curriculum study."

> "Planning lessons more purposefully and effectively, presenting content to elicit more student discourse and deeper understanding."

> "Being new to teaching the Eureka curriculum, it was helpful to have someone who is an expert, to break apart the standards and lessons."

> "The coach has greatly improved our cohort's ability to adapt our planning to meeting the needs of our students as well as aligning our planning to the measurements of learning. Mapping out our lessons and prioritizing content is much easier with our coach present."

> "It has been helpful to lead conversations about content in planning. Rather than going through the motions of planning, our team has had really thoughtful conversations about the content and how to reach all our learners."

Results: Surveys and Interviews

Implementation of Instructional Mathematics Coaches Model

Teachers, administrators, and mathematics leaders were asked, **"What factors have helped with the implementation of the instructional mathematics coaches' model?".** The following themes emerged from the surveys (n=103) and interviews (n=5):

Team collaboration and setting clear goals: The collaboration between the coach and the teachers emerged as a major factor influencing the effectiveness of the coaching services. The collective expertise from this coaching initiative streamlined the approach to mathematics instruction. Additionally, the openness and willingness of teachers to accept external assistance significantly impacted the initiative's success. Setting clear goals and expectations also facilitated smoother implementation and increased receptivity.

Timely feedback and targeted support: Teachers valued the timely feedback and support provided by the coaches. The feedback helped them refine and adjust their teaching practices within a reasonable timeframe for effectiveness in the classroom.

> "I think the fact that our team is very open to feedback and support has helped with the implementation of the coach."

> "Our team was willing to work with a coach. The team was very frustrated with not knowing the end goal."

> "The consistency of the support."

> "Our coach is in our classrooms observing and providing us with feedback and support. She plans with us and is able to speak to things I may have missed during instruction."

> "The openness of the staff to accept assistance to improve instruction for our students."

Results: Surveys and Interviews

Challenges with the Implementation of Instructional Mathematics Coaches Model

Teachers, administrators, and mathematics leaders were asked, **"What challenges have impacted the implementation of the instructional mathematics coaches' model?".** The following themes emerged from the surveys (n=103) and interviews (n=5):

Time constraint: The limitations imposed by time constraints had an impact on the effectiveness of coaching activities. Scheduling issues prevented coaches from more actively participating in the instructional process, such as co-teaching and modeling.

Effective feedback mechanism: Feedback should be timely and targeted rather than provided in fleeting moments that teachers believe lack depth, context, specificity, and action-oriented. There are instances where, due to the size of the teams coaches were not able to provide more personalized support Teachers expressed a desire for a more receptive feedback loop where their insights are heard and valued.

Establishing trust and clarity about coaching role: The lack of clarity about the coach's role led some teachers to perceive coaching as an avenue for error-spotting rather than a collaborative effort. Concerns were raised that the coaching model felt condescending and lacked trust in their professional abilities. Further, teachers expressed the desire for the coaching experience to be grounded in mutual respect and understanding where their voices are heard. They also wished for coaching to extend beyond mere observations to a more active participation in the instructional process.

> "One challenge is that they only come in for a limited time. So many times I felt the feedback given after an observation was small and nit picky and came from lack of understanding of what was happening in my room."

> "I would like if they gave more straightforward feedback. If there is something I could improve in I would like to know exactly what it is and tips on how to improve it."

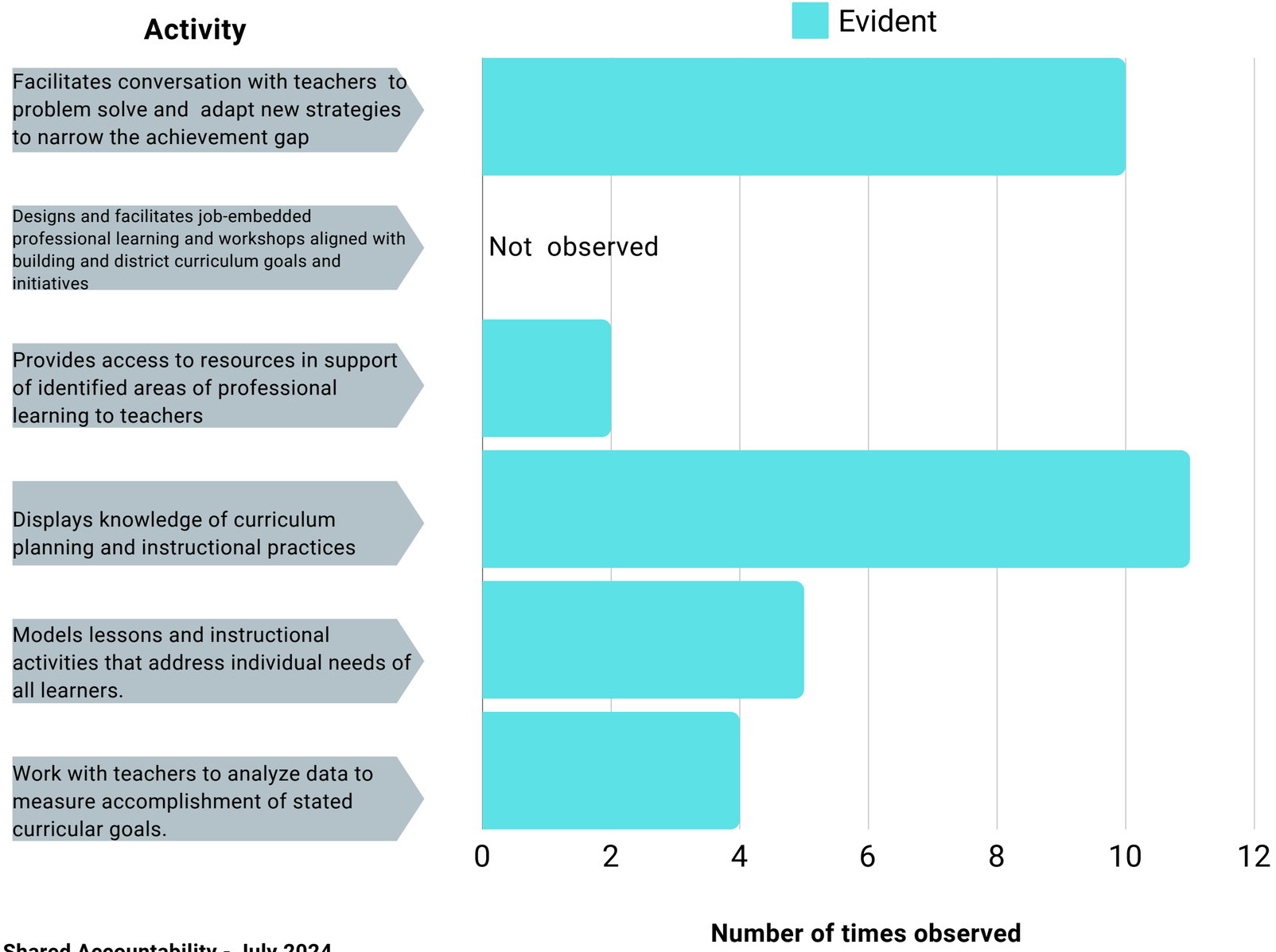
> "The schedule. She can't come as frequently as we'd like, and we don't get as much time with[her] in cooperative planning due to our limited time for planning."

> "At first, it seemed more like the coach was looking for errors to point out. I think a lot of this was due to the fact that the reason why we were given a coach and what their role is wasn't fully explained."

> "Many felt like having the coach was because they weren't teaching the curriculum the correct way and lack of trust in teachers to do their job effectively. It can be viewed as not having faith in our ability to be a professional and do our job without being monitored."

Results

Professional Learning Communities (PLCs) Observations



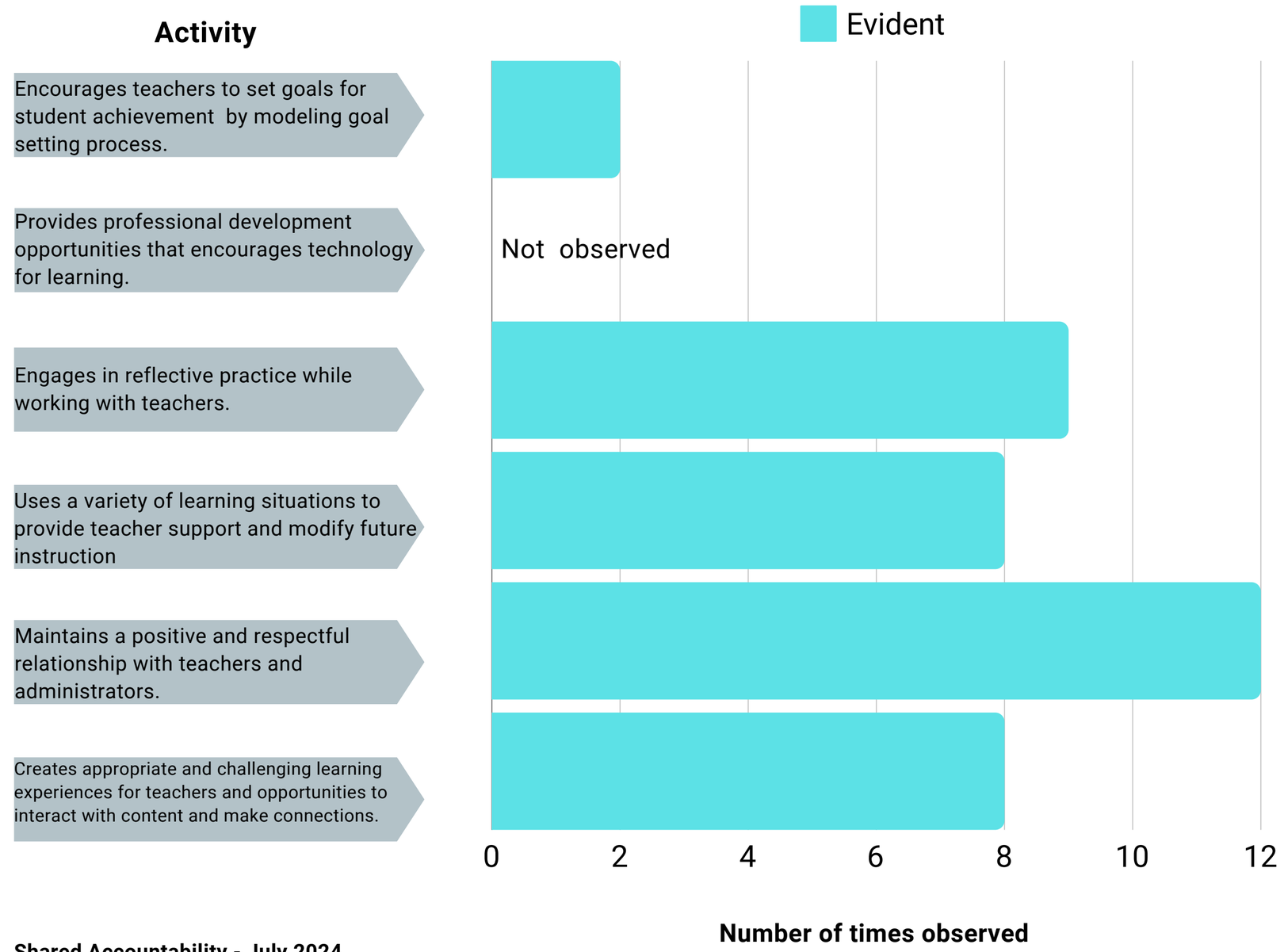
Findings

In addition to interviews and surveys, data was also gathered through observations of Professional Learning Communities (PLCs) to determine the implementation of activities as outlined in the job descriptions (Appendix A) and the expectation and responsibilities document (Appendix B).

Over a period of two months, twelve PLCs were observed, with each coach being assessed once according to pre-determined criteria aligned with the objectives of this initiative. Overall, the coaches demonstrated thorough knowledge of the curriculum and sound instructional practices. They facilitated targeted activities and discussions aimed at narrowing the achievement gaps. Notably, there were no job-embedded professional learning and workshops observed during these PLCs.

Results

Professional Learning Communities (PLCs) Observations



Findings

All coaches maintained a respectful relationship with teachers during coaching and planning sessions. In eight of the 12 observations, coaches presented a variety of learning situations to support teachers in lesson modifications and to help them engage with the lesson content and make connections. Notably, there were no professional development opportunities that encouraged the use of technology to facilitate learning. Two PLCs observed included any evidence of goal-setting modeling for teachers.

Conclusions

Summary of Key Findings

Time Constraints

There was considerable variation in how often teachers participated in activities with the coach. Only 46% of teachers indicated that they engage with the coach once per week. Additionally, 36% reported engagement twice weekly, showing a significant portion of more frequent engagement. Six percent of respondents worked with a coach three or more times per week, which was the least common frequency. This distribution suggested that weekly engagement was the norm. Many teachers expressed that they would like more time to work with the instructional mathematics coach and for the coach to be available for more classroom observation, lesson modeling, co-teaching, professional development, and crafting individualized action plans.

Selection Process

The criteria used for selecting teachers were unclear with a significant number of teachers unaware of how and why they were chosen for coaching. Nearly half (47%) of the teachers did not know how they were selected for coaching. The next significant portion, 27%, cited diverse reasons such as random selection, school performance, and their assigned role within the school. Only 4% of teachers volunteered for coaching, while 15% were identified and referred by the principal. Teachers sought clarity around the role of the coach, expectations, and goal setting.

Professional Learning

Insufficient professional development opportunities were evident based on observed PLCs and surveys. In general, teachers, administrators, and mathematics leaders highlighted the need for the mathematics coaching program to provide professional learning opportunities to build skills in areas needing improvement. This professional learning should be targeted and developed based on classroom observations and data. Thirty percent of teachers reported any professional learning opportunities. Additionally, no job-embedded professional learning aligned with district curriculum goals was observed.

Conclusions

Summary of Key Findings

Pedagogical Skills and Effectiveness

Administrators, teachers, and mathematics leaders noted the positive impacts on pedagogical skills, and classroom instructional practices due to coaching activities. According to the data, 83% of teachers reported a better understanding of the curriculum, and 74% indicated increased reflection on their pedagogical practices. Additionally, 73% of teachers felt that the coach provided sufficient help with lesson planning and modeling. The coaching provided and the activities engaged in by the teachers translated into improved mathematics content knowledge for 72% of the teachers. Sixty-seven percent noted an improvement in their overall effectiveness.

Practical benefits were observed in the classrooms as well. Sixty-four percent of teachers noted that they were better able to engage their students, and 69% were more purposeful in the activities they assigned. The ability to get students in discourse improved for 59% of teachers, and a similar percentage indicated a positive impact on student achievement. Administrators and mathematics leaders also highlighted improvements in pedagogical skills (68%), content knowledge (74%), teacher effectiveness (68%), and student achievement (58%).

In an open-ended question about the benefits of working with the instructional mathematics coach, two major themes emerged: 1) student-centered instructional strategies, where teachers could engage in more deliberative planning to meet the needs of students, and 2) a deeper understanding of the curriculum. Teachers could dissect the curriculum and focus on the essentials aligned with deep student engagement and understanding.

Support and Feedback

There is a consistent request for more feedback from the mathematics coaches especially after observations. Teachers believe that frequent, specific, actionable, and timely feedback contributes significantly to their teaching skills and practices. They also stressed the need for more tailored support to address both individual teacher needs and the needs of their grade level. Coaching should be responsive to their specific challenges, context, and instructional goals. Administrators expressed a desire for coaches to spend more time in the building providing support and resources to teachers.

Recommendations

Based on the findings, the following recommendations are made to improve the implementation and effectiveness of the instructional mathematics coach initiative:

1 Reduce the coach-to-school ratio

One of the core elements of the instructional mathematics coach initiative is to enhance teachers' capacity and effectiveness. To achieve this, coaches must dedicate more time to working closely with teachers on curriculum study and planning, data analysis, co-teaching, and modeling. Currently, most teachers interact with their coach only once per week, which is insufficient to build the relationships necessary for effectively implementing shared strategies.

By increasing the coaches' presence in schools and PLCs, they can offer personalized support, conduct frequent observations, and provide timely, actionable, and constructive feedback. This increased engagement will ensure a deeper impact on teaching practices and eventually student outcomes. For math coaching to be successful, coaches need to be in the classroom as much as possible - observing teachers, listening to student conversations about math and providing feedback (Will, 2020).

2 Establish clear goals and enhance communication

To maximize the effectiveness and success of the coaching initiative, it is crucial to set specific quarterly goals and monitor activities toward these goals. Ensuring that all stakeholders are aware of the metrics used to assess progress is essential for transparency and accountability. The goals should be PLC-specific, taking into account the performance data of students and the needs of teachers.

The professional development activities provided by the coach should be clearly outlined and integrated into the mathematics department's improvement plan. Also, coaches, in collaboration with the personnel from the central mathematics office should conduct regular professional learning with teachers and administrators. Strong support from administrators and teachers is vital for the successful implementation of the IMC initiative. To combat current apathy and misunderstanding regarding IMC roles, a detailed communique should be sent to each impacted school before the school year begins. This communication should clearly define the coach's roles and responsibilities, the purpose and benefits of coaching, teacher expectations, and the specific goals to be achieved.

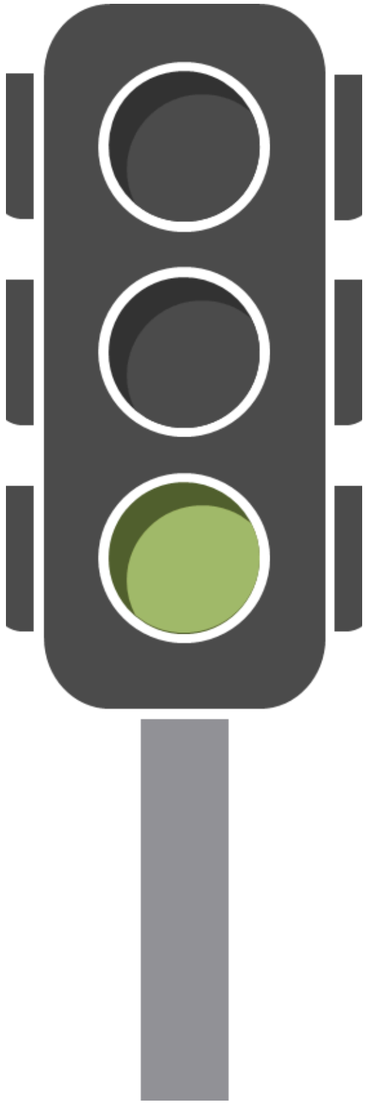
By providing clear, detailed information about the IMC initiative and setting clear expectations will help build stronger, more collaborative relationships and enhance the coaching experience and its effectiveness.

Recommendations

3 Provide targeted professional development for teachers

A teacher's pedagogical knowledge is increased when they are engaged in frequent professional development activities (Soliday, 2015). However, observations (0%) and survey findings (30%) revealed a lack of embedded professional learning within the coaching activities. Teachers expressed the need for more specific professional learning tailored to their needs and those of their students. To address this, instructional mathematics coaches should be empowered as adult educators to effectively build teachers' capacity, foster trust, and garner buy-in. Additionally, IMCs should be trained on research-based instructional strategies to impart this knowledge to teachers.

Evaluation Framework



CONTINUE IMPLEMENTATION

The evaluation findings suggest that continuing the instructional mathematics coaches initiative is warranted. Positive feedback from teachers, administrators, and mathematics leaders shows that the initiative is partially achieving its goals, particularly in improving pedagogy and instructional practices. However, to ensure maximum effectiveness, some aspects of the initiative need enhancement. A follow-up evaluation is recommended to assess the implementation of recommendations and impact on student mathematics achievement.

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Appendix A

Job description - Instructional Mathematics Coach

TEACHER, PREK-12 INSTRUCTIONAL MATH COACH, CENTRAL OFFICE SSE

MONTGOMERY COUNTY PUBLIC SCHOOLS CLASS DESCRIPTION		
OFFICIAL TITLE: Teacher, Central Office SSE	CODE: 1062	SQ/OQ: Not Applicable
WORKING TITLE: Teacher, PreK-12 Instructional Math Coach, Central Office SSE	GRADE: BD	MONTHS: 10
SUMMARY DESCRIPTION OF CLASSIFICATION: Under direction of central office, the Instructional Math Coach (IMC) position specifically focuses on strengthening and extending the school system's existing priority on designing and implementing a rigorous and culturally proficient curriculum and instructional program for all students. IMCs serve as content experts in mathematics instruction with knowledge of the PreK-12 mathematics curriculum and have taught mathematics in the elementary and/or secondary school. Provides direct team and/or teacher support to ensure consistent and high-quality mathematics instruction and improve mathematics achievement, differentiated to meet the needs of targeted groups of students, including but not limited to students with disabilities, Emergent Multilingual Learners, and students needing acceleration and/or enrichment. IMCs are responsible for building teacher and/or leader capacity by analyzing student learning data and modeling effective curriculum study and teaching practices. IMCs work directly with adults to support the implementation of the instructional program and provide feedback to teachers to assist them in improving teaching and learning.		
MINIMUM QUALIFICATION STANDARDS		
KNOWLEDGE, SKILLS, AND ABILITIES: Knowledge of MCPS curriculum, data, accountability structures, MCPS policies/practices, and effective instructional practices. A deep understanding of the teaching and learning process, the Maryland College and Career Ready Standards, as well as the adult learner theory and coaching. Ability to coach, model, and build the knowledge and skills of elementary teachers. Excellent organizational and management skills. Excellent skills in collecting, analyzing, and using data to support instructional decisions for students. Ability to provide instruction that reflects multiple perspectives and culturally responsive education. Ability to infuse technology into the curriculum. Ability to work effectively with administrators, colleagues, central office and school-based staff. Excellent oral and written communication and human relations skills.		
EDUCATION, TRAINING, AND EXPERIENCE: Master's degree or its equivalent from an accredited institution in semester hours of credit or is within one year of fulfilling this requirement. Has a minimum of three years of outstanding teaching experience, with one year in MCPS preferred. Experience and/or degree in mathematics education preferred. Other combinations of applicable education, training, and experience that provide the knowledge, abilities, and skills necessary to perform effectively in the position may be considered.		
CERTIFICATE AND LICENSE REQUIREMENTS: Meets Maryland state certification requirements in appropriate field of education.		
PHYSICAL DEMANDS: (Special requirements such as lifting heavy objects and frequent climbing.) As required by the duties and responsibilities of the job.		
SPECIAL REQUIREMENTS: (Frequent overtime or night work required, etc.) Required to attend occasional meetings, programs and activities outside the instructional day. Includes 20 required summer days.		
OVERTIME ELIGIBLE: No		

REPRESENTATIVE DUTIES: (This position description is not intended to be an exhaustive list of all duties, knowledge, or ability associated with this classification, but is intended to accurately reflect the principle job elements.) Builds the capacity of the classroom teachers to support mathematics instruction for all students. Provides coaching and professional learning to develop an instructional program to meet the needs of all students. Collaborates to build teacher capacity by coaching, mentoring, and modeling in the following areas: increasing the depth of understanding of mathematics content, fidelity of curriculum implementation, use of research-based instructional strategies, planning for and implementing differentiated lessons, and the effective use of student data to inform instruction. Provides individualized, data-driven coaching to classroom teachers based on classroom observations, student assessments, and teacher needs. Works with teachers to use assessments and student work to inform instruction, Supports the process of using real-time data to plan lessons that meet current student needs. Ensures teachers and teams use a wide array of formative and summative assessments to continuously inform the specific instructional strategies as well as provide responsive interventions. Facilitates collaborative planning sessions with classroom teachers to effectively study the curriculum and to help ensure instruction meets the needs of various student groups. Collaborates with the staff development teacher and team leaders to provide job embedded professional learning to improve teacher understanding of mathematics and how students learn mathematics, with an emphasis on the students with the greatest needs. Strives to maintain and improve professional competence. Establishes relationships with colleagues, students, families and community which reflect recognition of and respect for every individual. Performs related duties consistent with the scope and intent of the position.

Appendix B

Instructional Mathematics Coach _ Expectations and Responsibilities

If you have an instructional specialist AND an instructional math coach assigned to your school:	
Central Service Responsibilities	**School-based Responsibilities**
PreK-12 Math Supervisor(s) will…… ❖ Collaborate with principals to identify targeted teams/course PLCs for direct client (course PLCs, grade level teams, and/or teachers) support ❖ Engage in site visits each marking period to observe Instructional Math Coaches (IMCs) working with clients ❖ Provide antiracist professional learning and examination of current problems of practice with the collective group of IMCs twice monthly Instructional Specialist will… ❖ Provide direct support to school-based math leaders in order to approach mathematics through an anti bias/antiracist (ABAR) lens ❖ Attend pertinent school-based leadership meetings ❖ Support work towards math-related SIP goals The Instructional Math Coach will…. ❖ Collaborate with school administration to prioritize support ❖ Coach clients on all aspects of module/unit launches, curriculum study and lesson study weekly ❖ Provide client coaching and feedback on implementation of planning ❖ Engage in coaching on assessment, data analysis, and progress monitoring in order to approach mathematics through an ABAR lens	Principal and AP will… ❖ Work with the PreK-12 math supervisor(s) and instructional coaches to identify one targeted team/course PLC for direct client support ❖ Ensure the implementation of ongoing curriculum study and progress monitoring through an ABAR lens ❖ Evaluate planning and instruction to ensure the district curriculum is being implemented with integrity ❖ Preserve the structures and processes that allow the IMC and clients to be successful The School-based Math Leader will… ❖ Participate actively in curriculum study and planning ❖ Apply feedback and strategies to planning and teaching through an ABAR lens ❖ Collaborate with the central services math support to ensure consistent messaging ❖ Attend math leader meetings and professional learning Clients (Course PLCs/Grade Level Teams/Teachers) will… ❖ Establish team norms for effective team-managed time ❖ Collaborate with your IMC to: ➢ Engage in effective curriculum study ➢ Provide effective tier one instruction through an ABAR lens ➢ Apply effective data analysis and progress monitoring

If you have ONLY an instructional specialist assigned to your school:	
Central Service Responsibilities	**School-based Responsibilities**
PreK-12 Math Supervisor(s) will…… ❖ Collaborate with principals to identify the need for differentiated math support through an ABAR lens Instructional Specialist will… ❖ Collaborate with principals / school-based math leaders to identify the need for differentiated math support ❖ Provide direct support for math through an ABAR lens to ➢ school-based math leaders ➢ course PLCs, grade level teams, and/or teachers ❖ Attend pertinent school-based leadership meetings ❖ Support work towards math-related SIP goals	Principal and AP will…. ❖ Collaborate with PreK-12 Math Supervisor(s) and/or assigned instructional specialist to identify the need for differentiated math support ❖ Ensure the implementation of ongoing curriculum study and progress monitoring through an ABAR lens ❖ Evaluate planning and instruction to ensure the district curriculum is being implemented with integrity ❖ Preserve the structures and processes that prioritize collaborative teaching and learning The School-based Math Leader will… ❖ Participate actively in curriculum study and planning ❖ Apply feedback and strategies to planning and teaching through an ABAR lens ❖ Collaborate with the central services math support to ensure consistent messaging ❖ Attend math leader meetings and professional learning Clients (Course PLCs/Grade Level Teams/Teachers) will… ❖ Establish team norms for effective team-managed time ❖ Collaborate with your school-based math leader to: ➢ Engage in effective curriculum study ➢ Provide effective tier one instruction through an ABAR lens ➢ Apply effective data analysis and progress monitoring