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Abstract

Many factors contribute to the success and impact of a Mathematics Resource Teacher on K-5 mathematics instruction. Developing a strong partnership with stakeholders and sharing a common vision for quality mathematics instruction are key factors in the successful implementation of the Mathematics Resource Teacher program. In this article, we share the experience of elementary school principal, Timothy Martino, as he prepared to open a new elementary school in August 2012. Frederick Douglass Elementary opened with a full-time, school-embedded Mathematics Resource Teacher, Mrs. Cindy Brady. Timothy Martino and Mrs. Brady developed a partnership with division-level central office staff and with the teachers of Frederick Douglass Elementary. Thus, they began the journey toward improving mathematics instruction for students through a team approach.

The Mathematics Resource Teacher (MRT) program has been evolving in Loudoun County Public Schools since it began in 2004. With the inception of the MRT position, a program and job description needed to be clearly defined and implemented with classroom teachers. The following questions needed to be answered:

- What is the purpose of the program?
- Is the MRT a support system for teachers?
- Do they deliver lessons?
- Is the role of the MRT to model teaching and learning practices?
- Is s/he a remediation specialist?
- What is the role of the building principal in the MRT program?
- What is the role of central office staff in the MRT program?

Since the MRT program began, the program has gone through several different implementation models. One of these implementation models was school based, where the MRT supported a single school, two schools or up to six schools, and provided support to K-5 grade teachers in a single school setting, or supported select grade levels/teachers when shared among several schools. Another implementation model was a divisionwide professional development program. In this model, the MRTs provided professional development in content and pedagogy to cohorts of teachers, and sustained the professional development by supporting teachers at the school level. In each iteration of the MRT program, two key principles that defined the role of the MRT and the purpose of the program remained intact: 1) the MRT serves as a professional development support to teachers for continuous improvement of mathematics teaching and learning; and, 2) defining a program model to include a certain level of flexibility in order to meet the diverse needs of the schools. The implementation model was not the only component to have gone through changes. The roles of the stakeholders (principals, central office staff, teachers, MRT) also evolved. Through each change, it became evident that the most effective implementation model came from the successful partnership between the principal, central office staff, MRT, and teachers.

The Principal and Central Office Partnership—Setting Expectations

In Spring 2012, the Loudoun County Mathematics Resource Teacher (MRT) program was going through change in its implementation model. The MRT program moved from a divisionwide professional development model to a single school-based role. Having only eight MRT positions in the entire county, one position was offered to Frederick Douglass Elementary. Central office staff partnered with the principals in implementing the MRT program in order to establish a common expectation for the MRT program and the MRT role. Revisiting two key principles of the MRT program, the MRT would serve as a professional development support to teachers, and the MRT would have certain levels of flexibility to support the diverse needs of the schools.

During that same time, as a principal I was preparing to open a new school, Frederick Douglass Elementary School, with a new staff and a vacant Mathematics Resource Teacher position. Finding the right person for this position would be crucial for the MRT program to succeed and positively impact the students of Frederick Douglass Elementary School. Having been provided a program description and job qualifications from the central office, it was now my responsibility to select the best candidate to fill this position. I needed to identify the candidate who possessed the right balance of technical skills and qualifications, with the coaching skills and

the right personality to match the desired school climate. As the school principal, the first step to developing the successful partnerships is in the collaboration, communication, and trust.

The Principal and MRT Partnership: Building a Common Vision

The journey of the MRT position at Frederick Douglass Elementary School began during the 2012-2013 school year. Having experience teaching secondary mathematics and having earned her K-8 Mathematics Specialist endorsement, Mrs. Cindy Brady was selected to serve as the Mathematics Resource Teacher for Frederick Douglass Elementary. With a newly assembled staff and a new school, Mrs. Brady and I had a chance to make critical decisions as to how our partnership would support teachers, but most importantly raise student achievement. Our partnership began during the summer before opening the new school and welcoming the staff to the full implementation of a school-based MRT.

Understanding that the implementation of the MRT program at a school needed to be carefully orchestrated, we believed it was important to better understand our areas of strength and our areas for improvement as a new school staff. To gain this understanding, we decided that Mrs. Brady's role would be to provide model lessons in mathematics classrooms until I could gain a better understanding of the teachers' instructional mathematics skills. Knowing that it was important to start off on the right foot and have Mrs. Brady develop and build trusting relationships with the new staff, Mrs. Brady and I made it a priority to ensure consistent communication between the two of us—building a trusting relationship between the principal and MRT. We held regularly scheduled meetings every two weeks, and more frequently as needed, to discuss the status of our mathematics program, as well as discuss strategies to enhance our program. Through this consistent communication and partnership, we have a shared vision for our mathematics program and are working together to meet our school goals.

The MRT and Teacher Partnership: Building a Team

Mrs. Brady jumped into her role modeling mathematics lessons for classroom teachers, and worked hard to build quality relationships to ensure her time in the classroom was not invasive. During this initial time, Mrs. Brady also organized and created a "mathematics closet" to support instruction, and she provided information and professional development on the tools and manipulatives available to support students in learning mathematics. As Mrs. Brady and I continued our regular meetings, we believed that modeling mathematics lessons was a value-added practice to improve the staff's mathematics teaching practices. As a team, Mrs. Brady and I made the decision to continue our focus on providing model lessons, but also to increase her

role as a team-teacher with the classroom teacher. Mrs. Brady's gentle approach of introducing strategies, modeling strategies for teachers, and partnering with teachers in co-planning and coteaching, led to more and more teachers seeking to team-teach with Mrs. Brady. With principal support, gentle suggestions with appropriate supports in place, and a shared vision for the school's mathematics program, a trusting relationship was being built. Teachers more frequently implemented strategies that were once modeled by the MRT, and classroom walkthrough observations revealed more differentiated small groups for both remediation and enrichment. Students were benefiting from the collaborative partnership between the MRT and the teachers.

Maintaining the Partnerships: Continual Growth and Improvement

During the summer prior to the 2013-14 school year, Mrs. Brady and I reflected on the previous year: identified accomplishments, identified areas in which we could continue to grow, and planned our next steps. We still believed there was more our entire school team could offer the students at Frederick Douglass Elementary. Now that the partnership between Mrs. Brady and the teachers had been established, we adjusted our focus to be on continual professional development and leadership development among the school staff.

Throughout the summer months, Mrs. Brady and I assembled a professional development team that focused on changing the landscape of mathematics teaching and learning by implementing activities like "Problem of the Day" and "Number Talks." Mrs. Brady and our professional development team delivered several mathematics professional development sessions prior to beginning the school year under the direction of our central office staff. These sessions were very successful, focusing on higher-level thinking skills and getting away from "regurgitation and repetition." We all shared the same vision for our students to be critical thinkers who could apply and justify their mathematics skills.

As it became evident that Mrs. Brady needed to spend more time in classrooms, we created the "MRT Weeks" schedule to provide the needed supports in a consistent manner. The MRT Weeks was a specific schedule where the MRT supported a specific grade level and team-taught with that grade level on a regular basis. The MRT Weeks schedule allowed for our standardized testing grades (grades 3-5) to have access to Mrs. Brady on a weekly basis while primary grades (non-standardized tested grades) had access to Mrs. Brady on a biweekly basis. With this new schedule, Mrs. Brady was in classrooms nearly the entire day, assisting with the delivery of instruction, providing non-evaluative constructive feedback to teachers, and assisting with every aspect of instruction and assessment. This change is an example of the flexibility in

the MRT program model that was necessary in order to meet the needs of our school and have a greater impact on student achievement.

Our practices in mathematics teaching and learning have improved significantly in a short time, and it is the strong partnership between the Mathematics Resource Teacher, the principal, the teachers at Frederick Douglass Elementary, and central office that is helping the MRT program succeed. Mrs. Brady and I talk regularly, evaluating our progress and making decisions to enhance our school's mathematics program. We now meet quarterly in a formal setting to work out any issues or challenges we are facing with our mathematics program. One of the most important aspects of improving our mathematics instruction is the relationship that Mrs. Brady and I have built. It is focused on trust, listening, and hearing one another's thoughts on how to better serve our students. We rely on each other's expertise and have a true dialogue centered around quality mathematics teaching and learning. We provide input constantly about improving achievement. We look at data together, discuss instructional practice, and continually focus on her evolving role. Another important reason we are successful is the dedication and commitment of our classroom teachers to improve their practice. They have a "students first" attitude, and are willing to grow to better serve our students. When you enter a classroom and see a mathematics lesson, you now see highly differentiated instruction, modeling, getting students to "think outside the box," and moving from simple paper-and-pencil tasks to students justifying, clarifying, and supporting their answers. Students and teacher alike not only believe, but also support that there are multiple avenues to solving a mathematics problem.

Beyond the walls of our school building, the central office must serve as a partner on this team, maintaining an open communication and providing the necessary resources to support this program. The open communications between the Frederick Douglass team and central office provide us with professional development opportunities and resources for continued growth for each of the stakeholders. This partnership also provides central office staff with feedback as they look to continually improve division-level programs and support to schools. As we continue to move forward, each member of this partnership clearly understands that there is room to grow. We will continue to keep the lines of communication open as we focus on student achievement that will ultimately turn our students into critical thinking mathematicians!