



IT WORKED!

Empowering Math Teachers and Coaches to Provide Purposeful Pre-K Mathematics Experiences

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Preschool children come to school eager and ready to engage in mathematics. They are naturally inclined to explore ideas of mathematics and have a curiosity about such concepts as number, space and shape. Pre-K teachers, however, do not generally feel as comfortable as their students do with mathematics. There is a growing need to support pre-K teachers in planning and providing meaningful mathematics experiences within their classrooms.

Frederick County Public Schools (FCPS) in Maryland selected a new resource, *Nita's Pre-K Playbook*, to support teachers and students in engaging with purposeful experiences related to the big ideas of early mathematics. Four pre-K teachers, three general education teachers, and one special education teacher were invited to take part in a materials review project to consider the implementation of tasks from *Nita's Pre-K Playbook* in classrooms. The pre-K teachers were selected because of their previous experiences building understanding of pre-K mathematics standards and instructional strategies that were part of a Maryland State Department of Education (MSDE) course designed specifically for their unique needs. The classrooms were also representative of the diversified student population our pre-K programs serve.

During the fall of the 2015-2016 school year, teachers took part in monthly professional learning focused on deepening their understanding of the recommendations and best practices for pre-K mathematics. The National Association for the Education of Young Children (NAEYC) and National Council of Teachers of Mathematics (NCTM) joint Position Statement "Early Childhood Mathematics: Promoting Good Beginnings" was a guiding resource for this work. Time was also spent acclimating to *Nita's Pre-K Playbook*, including engaging in mathematical tasks and considering how these tasks would be implemented in the classroom with students. Following each monthly meeting, teachers selected and implemented a variety of tasks from *Nita's Pre-K Playbook* resource. The role of the two district math coaches leading the review project was to visit each classroom to see students engaged with each task and consider implications for full scale implementation in all classrooms. The district math coaches incorporated classroom visits as a means to understand the task through student work samples, student questions, and instructional approaches employed by the teacher.

In subsequent monthly meetings, we debriefed individually and as a group to identify the successes, challenges, adaptations/accommodations, grouping structures, and additional observations related to each task. The role of the classroom instructional assistant was an important part of our debriefing conversations as we continue to consider ways to build the partnership between classroom teachers and instructional assistants working together to serve students. This process allowed for collaborative discourse among district math coaches and Pre-K classroom teachers as they considered the most critical information related to both best practices for pre-K mathematics and use of the *Nita's Pre-K Playbook* resource that would be shared with all pre-K teachers.

Teachers who were part of the materials review were then included in planning for the Winter Pre-K Professional Learning. Together, we designed a structure for the day which offered the same experiences in developing understanding of the recommendations for teaching early mathematics and engaging in tasks from the new resource with all pre-K teachers. Time was also provided for participants to consider how the

tasks could be implemented over the course of the year. Teachers who were part of the materials review project shared key takeaways about the practicality of making the tasks work in their classrooms.

As district math coaches, we continually look for ways to empower teachers as well as develop the leadership capacity of school based math specialists. Elementary Math Instructional Leaders at each school were invited to participate in the professional learning session alongside their pre-K classroom teachers. This was an important component in our planning as many math leaders are looking to build their own understanding of early childhood mathematics, and would be better positioned to assist their pre-K teachers in an ongoing basis. It also allowed pre-K teachers to recognize the significance of the work they do with children, and to feel both valued and supported in moving forward.

This experience prioritized the need for focusing on early childhood mathematics, supported all those who work with our youngest learners, and allowed teachers to serve as role models and mentors for their colleagues. The collaborative nature of the project respected the contributions of all those involved. The review project and implementation of *Nita's Pre-K Playbook* in all pre-K classrooms were successful because we empowered teachers while also assisting math specialists in developing their own leadership potential. It worked because together we recognized the need for high quality early childhood mathematics experiences, and best positioned both our teachers and leaders to take action.

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