Administrative Training

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The Indiana Mathematics Initiative (IMI) is a collaborative project involving nine partner school districts and Indiana University. The focus of the project has been to improve mathematics instruction. Thus, one of the goals of the project was to increase teacher content knowledge. In an effort to provide consistency in the professional development and support provided for elementary teachers, the project chose one standards-based elementary math curriculum that had been funded by the National Science Foundation, *Everyday Mathematics*, and asked partner districts to commit to having some of their teachers pilot the program.

As one of the nine participating school corporations, the Metropolitan School District (MSD) of Pike Township began using *Everyday Mathematics*, a standards-based reform curriculum. Pike Township is an urban school district located on the northwest side of Indianapolis, Indiana. The school district consists of nine elementary schools, three middle schools, a freshman center, and a high school, with a total enrollment of about 10,000 students. The diverse student population includes African Americans, Asians, and increasing numbers of Hispanic students.

The IMI project began facilitating professional development for classroom teachers as Pike teachers piloted the standards-based curriculum. A key component of any professional development initiative is clear communication with school administration. A goal of the IMI project was to help build administrator support for teachers using reform-minded teaching methods in their classrooms. Therefore, IMI provided administrative awareness sessions that happened concurrently with the teacher training. The awareness sessions focused on providing support for the teachers in training and elevating the administrators’ comfort with evaluating reform-minded mathematics instruction.

Subsequently, at the end of the second year of the IMI project, the MSD of Pike Township, along with seven of the other eight school districts in the IMI project, adopted *Everyday Mathematics* for use in all of their elementary schools. As a part of the district-wide implementation of the standards-based curriculum, the MSD of Pike Township provided training specifically for elementary principals and assistant principals. The training was planned in an effort to support district administrators who were not familiar with the *Everyday Mathematics* program in a way that made it possible for them to fully support teachers implementing the program. At this time, administrators had been given opportunities through IMI to learn about standards-based curricula and had seen components of *Everyday Mathematics*. However, the administrators needed to see more specifics of the program to identify what was being taught by teachers. The training was planned and implemented by a district math coach, an IMI consultant, and Pike’s Director of Programs and Staff Development. (See Appendix 1 for the agenda.) What follows is a description of the session for administrators and some of the results of that training.
Training Session for Administrators

The training began with an overview of the research from the U.S. Department of Education's Institute of Education Sciences’ What Works Clearinghouse (see http://ies.ed.gov/ncee/wwc/reports/elementary_math/eday_math/) recognizing Everyday Mathematics as an effective program. The entire article from the clearinghouse was shared with administrators as a future resource.

Due to the district’s strong partnership with IMI, administrators were then given an update of the project’s accomplishments and future goals. As a result of the collaboration with IMI, Pike teachers have received hours of training. Many teachers have developed into leaders not only in mathematics but also in other district activities.

Next the math coach gave an overview of the Everyday Mathematics program. (See Appendix 2 for the accompanying handout.) This part of the session began with a brief description of the unique features of the program, including organization of lessons based on learning goals. The mathematical concepts and topics in the curriculum spiral across grade levels with the goals and within the grade level through the math boxes (a series of math questions meant to review previous learning and introduce new learning) and the games. Each lesson plan begins with background information for the teacher, including advanced preparation tips and lesson vocabulary. The content of the lesson begins with a mental math review activity and an introduction to the lesson. Then students are presented with new content through a variety of strategies such as exploratory activities, hands-on manipulative work, and small group or partner work. A lesson might also include having the students work on math boxes or play one or more of the games. Practice is given with daily homework activities. Finally, each lesson has specific strategies to differentiate learning for various student groups such as those who need reteaching, practice, or enrichment, and students who are English language learners.

Due to needs in the district, three sections of the program overview were emphasized more heavily. First, the description of the lesson, especially in regard to pacing, was highlighted to stress the importance of completing the program during the academic year. Second, in discussing the lesson itself, clarification was given regarding the purposes and uses of the math boxes and games. After this discussion, many administrators commented they would focus on looking at the use of math boxes and games when reviewing teachers’ lesson plans and when completing classroom observations. Third, the options for individualizing were discussed in great detail. Administrators consistently asked teachers to differentiate their instruction. By highlighting these features within the program, the administrators would be better able to support their teachers in using the components to best meet the needs of their students.

After presenting and discussing the overview of the program and the lessons, the next part of the session focused on Everyday Mathematics classrooms. The curriculum materials had included a document describing what Everyday Mathematics looks like in the classroom. The MSD of Pike Township math coach adapted this form to share with both administrators and teachers. (See Appendix 3 for the adapted version.) In the original form, it appeared that all items listed on the checklist were of equal importance and would all be evident in an Everyday Math classroom. The format was also more evaluative in nature than the math coach felt was appropriate. Thus, for the intended purpose in Pike Township, the format was changed to a list. The checklist describes classroom management and structure and curriculum management of the lesson and program components, instructional practices, assessment, and pervasive themes. The math coach reviewed the checklist with the principals, and then asked participants to use the checklist as they viewed a short video clip of a model lesson. The administrators were then able
to discuss each of the items on the checklist and whether or not they were observed during the video clip. The clip was purposely a shorter lesson to model for administrators so that many elements could be observed in a short amount of time.

In addition to practicing use of the checklist, the administrators participated in a discussion of which elements would be more important to observe in the classroom. They also talked about which elements were appropriate for primary and intermediate grades and how often certain activities may be evident within the classroom. For example, the alternative algorithms would be more evident in intermediate grades, but they may not be observed during every visit made by a principal.

At the conclusion of the training, administrators were reminded of the opportunities for continued support for their teachers. The math coach is available to offer curriculum support and math content training. In addition, teachers who had been identified as teacher leaders in the IMI project or who had piloted the Everyday Mathematics program are also available to work with and mentor other teachers. These teachers had attended additional training within the district on the topic of content training and were ready to share what they learned in their own buildings. This sharing could take place in a staff meeting, after-school meeting, or professional development release time. Lastly, there is also the continued support of the math substitute who is available to work with students, to prepare materials, and to allow release time for teachers to observe math lessons. (See Supporting Mentor Teachers: The District Mathematics Substitute Teacher in Pike Township, by Suzan Feuer and Amanda Ravenscroft, [http://www.indiana.edu/~iucme/perspectives/26feuer.pdf](http://www.indiana.edu/~iucme/perspectives/26feuer.pdf) for more information on the math substitute.)

At the end of this session, the administrators shared that they felt better able to support their teachers in the implementation of the program. With a stronger understanding of the language and features of the program, they also said they felt better equipped to evaluate a teacher’s implementation of all aspects of the program.

**Results of the Administrator Training**

Following this training session, every administrator scheduled a follow-up staff meeting at his or her building, during which the math coach presented a condensed overview version of the curriculum from the administrative training. The agenda for each of these staff meetings included a review of the components of the Everyday Mathematics program and a review of the Everyday Mathematics checklist. Teachers had the checklist and were thus clearly informed of the expectations of their principals. There were discussions about how the checklist would be used to support teachers as they used the program. At the conclusion of these staff trainings, many teachers requested additional support from the math coach for the implementation of the program, especially regarding timing and pacing of the lessons.

The training also opened a dialogue between administrators and the math coach about implementation and about support needed for teachers. Administrators felt more comfortable contacting the math coach directly with questions. Administrators also arranged for specific support for any teachers struggling with the curriculum. For example, a few administrators asked the math coach to contact individual teachers and schedule a time to model teaching Everyday Mathematics lessons.
Conclusion

The original goals of this session were to help enable administrators to support their teachers using the *Everyday Mathematics* program and to be able to more effectively evaluate the teachers. After this training, administrators commented they had a better understanding of the curriculum. This improved understanding equipped the administrators to better support their teachers both with professional development and with needed materials. The administrators also contacted the math coach, when necessary, to offer support for their entire staff, as appropriate, and specific support for individual teachers needing help with implementation of *Everyday Mathematics*. Thus, the administrative awareness session resulted in improved communication between principals and teachers, principals and the math coach, and the math coach and teachers, which will ultimately result in greater consistency in the elementary mathematics instruction throughout the district.

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Appendix 1

Administrators’ Professional Development:
Everyday Math
Facilitated by Julie Sigmund, Math Coach

- Welcome
- What Works Clearinghouse article
- IMI Update
  - Data
  - Newsletter
  - Website  http://www.indiana.edu/~iucme/
- Lesson Overview (see attached)
- Everyday Mathematics: What does it look like?
  - Review all pieces
  - Apply to video of lesson
- Content Training Opportunity
  - Video Clip & Algorithm Review
- Contact People at Building Level

Pike IMI Data

<table>
<thead>
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<th>PERCENT OF STUDENTS PASSING ISTEP+ OVERALL:</th>
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Lesson Overview — Grades 1–6

- Summary/Materials

- Grey Box
  - Background Information
  - Advanced Preparation
  - Vocabulary

- Getting Started
  - Mental Math & Reflexes
  - Math Message
  - Home Link/Study Link Follow-Up

- Part One: Teaching the Lesson
  - Math Message Follow-Up
  - Journal Pages
  - Games
  - Adjusting the Activity
  - Ongoing Assessment

- Part Two: Ongoing Learning & Practice
  - Math Boxes
  - Home Link/Study Link

- Part Three: OPTIONS for Individualizing
  - Reteaching
  - Enrichment
  - Extra Practice
  - Language Diversity
Appendix 3

Everyday Mathematics Program

The purpose of this document is to serve as a tool for staff to ensure effective implementation of *Everyday Math* throughout the district.

What does it look like in a classroom?

Just one visit to a classroom will not reveal all of these components, but over the course of time, the use of the following elements will ensure effective implementation of the *Everyday Mathematics* program.

Classroom Management and Structure:
- Classroom/desk set-up appropriate for partner/small group work
- Number grid (K–3) and number line (K–6) displayed for easy reference
- Student materials and manipulative use evidence: storage appropriate and accessible
- Evidence of daily routines (i.e., calendar, jobs, and attendance K–3)

Curriculum Management:

Lesson/Program Components (observable during formal classroom observation/mathematics lesson)
- Evident use of Teacher Lesson Guides
- Math Message utilized/displayed
- Observation of *Early Childhood Minute Math (K)*, *Minute Math + (1–3)*
- Math journal pages reflective of current lesson (up-to-date) and have responses indicating teacher monitoring
- Observable daily usage of Math Boxes, Home Links (K–3) and/or Study Links (4–6)
- Utilizes Exploration Lessons at grades 1–3
- Incorporates Projects into the curriculum at grades 1–6
- Evidence of yearlong Project use (i.e., Sunrise/Sunset, World Tour, and American Tour) at grades 3–5
- Familiarity of students with games: there is evidence of frequent utilization
- Evidence of a balanced assessment plan (on-going, product, and periodic)
- Pacing: appropriate number of lessons completed as referenced in the district pacing guide

Instructional Practices (observable during formal classroom observation/mathematics lesson)
- All students appropriately involved in some aspect of the lesson
- Provisions are made to meet the needs of individual students
- Students are encouraged to apply math to “real-world” situations
- The teacher encourages students to evaluate and revise their work
- Students write about understanding in mathematics
- Strategy sharing and discussion permitted and encouraged by teacher
- Key questions being asked by teacher
  - “Is there another way to solve this problem?”
  - “Does anyone have another solution?”
  - “Who would like to show us another way to get the correct answer?”

Assessment (observable any time)
- Knows which program Learning Goals are the focus of the lesson
- Utilizes a variety of assessments (i.e., oral and slate, portfolio, paper/pencil, etc.)
- Implements a method to record student performance data on a regular basis
- Circulates throughout lesson to assess and assist students

Pervasive Themes (observable any time with *Everyday Mathematics* student)
- Number Sense: evidence of skip counting, number scrolling, number grid use, and name collection boxes
- Algorithmic Procedures: evidence of exposure, knowledge, and use of various algorithms
- Students using vocabulary demonstrating appropriate understanding of program
- Students can make mathematical connection to other curricular areas/everyday world

Adapted from *Everyday Math* — Wright Group