

## *Data Brief*

### **Chicago Teachers Project: Everyday Math Leadership Training, 2005-2006**

**Meghan Burke  
Carol Fendt**

June 6, 2006

#### *Introduction*

This databrief presents the findings of one strand of the Chicago Teachers Project (CTP), which was funded by the Illinois Board of Higher Education (IBHE). The PRAIRIE Group of the Department of Education at the University of Illinois at Chicago completed the external evaluation of two strands of the CTP: (1) the New Teacher Network and (2) the Everyday Math Leadership Training project. This databrief represents the findings of the Everyday Math Leadership Training project.

The Chicago Teachers Project aspired to (1) to improve mathematics achievement in Grades K-5 in the Chicago Public Schools (CPS); (2) to improve the quality of mathematics instruction at Grades K-5 in the CPS; and (3) to develop local leadership that can sustain long-term improvement in mathematics instruction and achievement in the CPS. The Everyday Math Leadership Training project falls under the third, above stated goal. This external evaluation specifically examines the impact of the Everyday Math Leadership Training on developing the role of a leader who can support Everyday Math instruction in CPS.

#### *Evaluation Method*

Three guiding questions framed the external evaluation of the Everyday Math Leadership training:

- a) How do the participants define leadership and what leadership skills or theories are they learning about and bringing back to their work in their schools?
- b) How does the training help foster their leadership roles in their schools?
- c) What other factors encourage their leadership roles in their schools? What factors prevent them from providing leadership in their schools?

The data used to answer these questions included: (a) observations of four leadership training sessions; (b) the written reflections of the participants; (c) shadowing of four participants (two new leaders and two experienced leaders).

#### *Overview and Notes*

The 2005-2006 Everyday Math Leadership Training had two cadres of participants: (1) the brand new leaders and (2) the experienced leaders. Each cadre attended three of the four Everyday Math Leadership Training sessions which began in February.

The composition of Everyday Math Leadership Training participants was very diverse consisting of teachers, school-based specialists, City-wide Specialists, Area Math and Science Coaches and Everyday Math Facilitators. Over the four sessions observed in this external evaluation, the composition of participants was nearly half teachers and half CMSI support staff. The following table represents the composition of participants at each session.

**Table 1: Composition of Attendance at Everyday Math Leadership Training Sessions**

	February Meeting (new leaders)	March Meeting (experienced leaders)	April Meeting (both new and experienced leaders)	May Meeting (both new and experienced leaders)	Total
Teachers	8 (38%)	16 (47%)	20 (54%)	19 (61%)	63 (51.2%)
School-based Specialists	4 (19%)	3 (8%)	4 (11%)	6 (19%)	17 (13.8%)
City-wide Specialists	5 (24%)	5 (15%)	5 (14%)	2 (7%)	17 (13.8%)
Everyday Math Facilitators	2 (9.5%)	2 (6%)	2 (5%)	0 (0%)	6 (5%)
Area Math and Science Coaches	2 (9.5%)	4 (12%)	3 (8%)	4 (13%)	13 (10.5%)
Unknown	0 (0%)	4 (12%)	3 (8%)	0 (0%)	7 (5.7%)
Total	21	34	37	31	123

The wide distribution of people in various working positions who attended the Everyday Math Leadership Training will be discussed later in the databrief in considering the effect of the leadership training on their leadership roles in math instruction.

### *Findings*

*How do the participants define leadership and what leadership skills or theories are they learning about and bringing back to their work in their schools?*

This section will begin with examining how the participants define leadership and what they learned and then brought back to use in their schools (guiding question a).

During the first leadership training, which was held in February, the new leaders answered three questions: (1) What do you think it means to be a math leader in CPS? (2) What kinds of things do you imagine math leaders (like yourselves) doing within CPS? (3) What kinds of things do you think you need to learn more about to be a more effective math leader?

Regarding the first question, the participants generally agreed on the following characteristics

that they perceived to be necessary to be effective math leaders: good communication skills, comprehensive knowledge, and expansive understanding of Everyday Math at all grade levels. In answering the second question, the participants agreed that the following activities were appropriate for math leaders in CPS: modeling, co-teaching, mentoring, providing support, monitoring implementation and facilitating professional development. For the third question, the participants largely arrived at the same answer: they wanted to learn more about the spiraling in Everyday Math throughout the grade levels in order to be effective math leaders.

The responses to the second question are interesting to note in relation to the working positions of these respondents. This Everyday Math Leadership Session had the lowest number of teachers attending (38%). The responses of how to act like a leader in CPS parallel the responsibilities of CMSI support staff (school-based specialists, City-wide specialists, Area Math and Science Coaches, and Everyday Math Facilitators). Many of these activities (modeling, co-teaching, monitoring implementation, etc) may not be as viable for teachers as their primary responsibility lies with classroom instruction. This difference between the capacities of teachers versus CMSI support staff to act as leaders will be further elaborated on later in this databrief.

Regarding the third question, the participants largely agreed that spiraling is necessary for them to learn more about in order to be effective leaders. The last Everyday Math Leadership Training session devoted a large portion of time to spiraling and learning how Everyday Math works at different grade levels. This session was extremely popular and deemed very worthwhile by the participants as stated in their written reflections and in the shadowing sessions. The value of the spiraling activity will be further elaborated upon later in this databrief.

The experienced leaders were asked a similar question to the new leaders; during this first session (held in March) they were asked to name one way in which they applied the knowledge and skills they learned last year from the Everyday Math Leadership Training. The teachers who responded stated that they used what they learned to either (1) facilitate a parent workshop on Everyday Math or (2) to facilitate Everyday Math Professional Development over the summer. The CMSI support staff who responded had more diverse ways in which they applied what they learned to their leadership roles including: facilitating grade level meetings, providing Everyday Math materials, supporting the teachers and facilitating Everyday Math Professional Development both over the summer and at school sites.

*How does the training help foster their leadership roles in their schools?*

This next section addresses the impact of the Everyday Math Leadership Training on the leadership roles of the participants.

Based upon written reflections completed by both new and experienced leaders from seventeen different schools, the respondents reported that the training affected their knowledge and practice of Everyday Math. The written reflections were completed by nineteen new leaders and 14 experienced leaders representing a blend of participants both new and experienced. The table below (Table 2) illustrates the composition of the working positions of those who completed the written reflections.

**Table 2: Composition of Those who Completed the Written Reflections**

	Area Math and Science Coaches	City-wide Specialists	School-based Specialists	Teachers	Unknown
Number of Written Reflections	3	3	7	19	1

The written reflection participants represented a wide disparity in terms of how many years they had supported/used Everyday Math ranging from 1-13 years with an average of 3.6 years.

The following are the written reflection questions asked to the leadership participants.

**Table 3: Written Reflection Questions**

<ol style="list-style-type: none"> <li>1. The training I have received has increased my ability to function as a leader in the district/school in math instruction. (1 is strongly disagree; 4 is strongly agree)</li> <li>2. Please explain your answer. If you agree, describe the skills you have gained. If you disagree why is there no change?</li> <li>3. How have/will you bring these leadership skills to bear on your work in your school/district?</li> <li>4. What other topics would you like the training to address in order to improve your leadership skills?</li> <li>5. Please rate the quality of the leadership trainers who you have encountered in Everyday Math training below: (1 is weak; 4 is excellent)</li> <li>6. Please comment on your response above. What have been the strengths and weaknesses of your trainers?</li> <li>7. What has been the most positive aspect of your training with Everyday Math?</li> </ol>
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1. The training I have received has increased my ability to function as a leader in the district/school in math instruction. (1 is strongly disagree;4 is strongly agree)

Respondents had a wide range of scores stretching from 1 to 4. The average for all of the 32 respondents who answered this question was 3.28. Out of the total 32 respondents, 19 were teachers. The teachers represented the full scale ranging in answers from 1-4 and having an average rating of 3.26 (this is the lowest average for any subgroup for this particular rating). The remaining respondents were 13 CMSI and EM support personnel (e.g. facilitators, school-based specialists, City-wide Specialists, Area Math and Science Coaches, etc) who had a slightly higher average rating of 3.46 yet a range of 1-4.

Three respondents in total ranked a 1 in response to this question; however, when asked to explain their rankings in Question #2, they offered very positive feedback. For example, one respondent who answered with a 1 to Question #1, responded to Question #2 by stating *I have increased content knowledge as well as program resources. I have also learned presentation skills.* Because those who answered with a 1 to Question #1 did not offer any negative feedback in response to Question #2, this causes some concern and subsequent caution in the validity of

Question #1. Perhaps the question was not clear to the respondents or the Likert scale was not an accurate measure to gauge the truthfulness of the statement.

2. Please explain your answer. If you agree, describe the skills you have gained. If you disagree why is there no change?

All of the responses were positive regarding the skills gained as a result of the Everyday Math Leadership Training. The responses centered on four main themes: (1) understanding spiraling; (2) understanding the program; (3) ability to advocate for Everyday Math; and (4) better understanding of the Everyday Math philosophy. The majority of responses reported that gaining a greater understanding of the spiraling and/or the program were the skills gained; four responses were reported for each.

The majority of the responses to this question stated that respondents better understood the spiraling of Everyday Math at all grade levels due to the training. Comments written in one reflection stated *It has helped me to see how the curriculum really does spiral. It is helpful to see this and understand how important pacing is.* Another written reflection stated *I love seeing the spiral throughout the grade levels.* Comments such as the above two were very common in the written reflections. Many of these participants who completed the written reflections added that they will use their greater understanding of spiraling to work with teachers in their schools to show the importance of pacing and illustrate how the curriculum really spirals through all of the grade levels. Comments such as: *I have greater understanding of the way EDM builds across grade levels which will help me connect my student's concrete knowledge to the concepts I am teaching. It will allow me to help other teachers support their students in similar ways and I learned how to use what we learned today as an in-service at my school. It is extremely important for teachers to see and understand how the math strands across grade levels are interdependent* further demonstrated the impact of the spiraling activity on the Everyday Math Leadership Training participants. These comments displayed the trickle down effect of the spiraling activity in that the Everyday Math Leadership Training participants planned to use the spiraling activity in their schools with teachers to enhance Everyday Math implementation.

Participants reported that a greater understanding of Everyday Math was another common skill to be gained. Written comments such as *I am able to understand the program better. I am constantly learning new things about the teaching of math and I continue to deepen my understanding of the content as well as the intent of the curriculum* were common among the responses to what skills they have gained from the Everyday Math Leadership Training. Similar to the responses regarding spiraling, these responses regarding gaining a greater understanding of Everyday Math also showed the impact of the training as the respondents said that the training helped them to collaborate and work with teachers using their enhanced understanding. For example, one written reflection stated that a skill he/she gained was *working with participants, engaging them in discussions, sharing ideas to form connections, EM knowledge.* Participants reported not only a gain in understanding the program as a means to enhance their ability to teach the curriculum but also as a tool for greater collaboration with others who are implementing the curriculum.

Mentioned much less than the spiraling and greater understanding of Everyday Math were two other skills purported to be gained by the training: Everyday Math leadership skills and an understanding of the Everyday Math philosophy. Each of these skills was mentioned in four

different written reflections. Regarding leadership, these written reflections revealed that participants were now better able to *advocate for the EDM program at all grade levels* and more capable of finding activities and facilitating discussion to better support Everyday Math implementation. Regarding the Everyday Math philosophy, these written reflections reported that the participants would now *include EDM philosophy into lessons* as they reported that they had a greater *understanding of philosophy*.

The written reflections revealed four dominant skills (understanding spiraling, program understanding, leadership and an understanding of the program philosophy) that the participants retained due to the Everyday Math Leadership Training. Some of these skills can be directly traced back to the Everyday Math Leadership Training sessions. For example, spiraling and the Everyday Math philosophy were the two foci of the May 8, 2006 Everyday Math Leadership Training Session. The popularity and the skills gained as reported by the written reflections may imply the value in these activities.

Another important aspect of these written reflections related back to one of the goals of the CTP project: to develop leadership in math instruction in Chicago Public Schools. The written reflections not only disclose the skills that the participants gained from the training but also how they intend to apply the skills that they gained regarding Everyday Math implementation at their schools. The written reflections demonstrated the participants' intent on using their skills in grade level meetings, future collaboration with teachers, in-service professional development and also to enhance their own Everyday Math instruction. Regardless of the skill gained, the written reflections showed that the participants planned to use their skills in fostering Everyday Math instruction at their schools. Even though this question did not ask participants how they would apply their skills in their schools (which is the question #3), their responses on the written reflections did address their intention to apply their skills, perhaps demonstrating the commitment of these participants to use what they learned from the Everyday Math Leadership Training.

3. How have/will you bring these leadership skills to bear on your work in your school/district?

Leadership Training participants revealed two primary ways in which they would use what they learned from the Leadership Training in their schools: 14 stated they would provide in-school professional development and 14 others stated they would support teachers.

Regarding professional development, eight written reflections stated that they would actually want to use the same spiraling activity used on May 8, 2006 for in-school professional development. Comments regarding replicating this activity included *I hope to run this spiral activity at least for the teachers in my school* and *I would use this jigsaw method in leading development within the school*. The spiraling activity, as similarly demonstrated in the responses to Question #2, had a powerful effect on the Leadership participants.

Another important aspect of the written reflections regarding professional development was the site in which the participants would facilitate the professional development: within their schools. The experienced leaders (those who attended the Everyday Math Leadership Training) predominantly reported in their March 20, 2006 meeting that one way in which they applied what they learned from their participation in the 2004-05 Everyday Math Leadership

Training was to facilitate Everyday Math Professional development in summer 2005. In contrast, this year's leaders reported that they would apply the skills they learned from the Everyday Math Leadership Training by facilitating professional development within their schools. The difference in the site of where the Leadership participants intend to facilitate the professional development seems to have shifted from an assorted group of Everyday Math teachers attending the summer professional development to the teachers within one's own school. Because we do not have the attendance information from the 2004-05 Leadership Training, we cannot determine if a change in working position or backgrounds of the participants caused this shift between the two years. Whether the Leadership participants actually did facilitate professional development will be elaborated upon later in this databrief.

The other common way in which the leadership participants planned to apply their skills learned from the Everyday Math Leadership Training was via supporting teachers. Facilitating in-school professional development may not be an option for all of the leadership participants (see below section of strand 3 of the evaluation for more information). Perhaps in place of professional development or perhaps as a preferred medium of applying the skills they learned from the Everyday Math Leadership Training, these participants stated that they would use their new skills in grade level meetings/to support teachers.

Mentioned among these written reflection comments was the influence of the spiraling activity used on May 8, 2006 in enhancing their ability to support teachers. For example, one written reflection stated, *I would definitely stress to other teachers to stick with the pacing and use this activity to prove the relevance of that spiral.* Another written reflection similarly reinforced the importance of understanding the spiral in supporting teachers, *It's useful to be able to communicate with teachers and explain the importance of the spiraling effect.* The written reflections mentioned that by understanding Everyday Math in other grade levels, they are better able to support teachers in math instruction.

In the written reflections, participants offered a variety of ways in which they would support teachers. Methods to support teachers' math instruction included the following: grade level meetings, mentoring, individual meetings, discussion and collaboration. Written reflections completed by participants of all working positions (e.g. teacher, school-based specialist, City-wide Specialist, Area Math and Science Coach, etc) offered this medium as one way in which they would apply their skills. In response to this question, one specialist wrote, *As a specialist I meet with my teachers by grade level and individually. During these meetings I share what was covered at the workshops.* A teacher had a similar comment: *I want to continue to collaborate with my peers by sharing ideas, looking at my student work together and examining lessons together.* These and similar comments on written reflections suggest that the skills gained from the Everyday Math Leadership Training will be put to use by working, hands-on, with teachers on math instruction, fulfilling the goal of developing leadership in math instruction in Chicago Public Schools.

4. What other topics would you like the training to address in order to improve your leadership skills?

Respondents provided four main topics that should be addressed or should continue to be addressed in the Everyday Math Leadership Training: spiraling, speaking/presentation skills, special education/differentiation and assessment.

In response to this question, respondents asked for spiraling to continue to be addressed at these trainings. Reinforcing the power and influence of the spiraling activity, leadership participants wrote that the training should *continue with how concepts spiral throughout the grade levels* and that they *really wanted to take a closer look at the spiraling and that was accomplished*. The spiraling activity was deemed very valuable by the participants; their written reflections revealed that this activity should continue for future trainings.

Four written reflections revealed that participants would like some training on presentation/speaking skills to facilitate the summer professional development. Comments such as *a short workshop on providing professional development might be helpful* and *speaking skills-for presenting at workshops* demonstrate the desire for some training on this theme. However, addressing speaking/presenting skills may have been addressed at one of the three meetings specifically for those who were going to facilitate Everyday Math Professional Development. The external evaluation did not observe these meetings so it is unknown as to whether this topic was in fact addressed.

Also in response to this question, two of the written reflections asked for further training on special education/differentiation. Written reflections included statements noting the desire for the following topics to be addressed: *differentiating for sped and ELL, split classrooms* and *inclusion of students with special needs*. Special education/differentiation was not addressed at any of the four sessions of the Everyday Math Leadership Training by the Everyday Math trainers. Similar comments were also made in two of the shadowing sessions (which will be discussed later in this databrief) regarding questions on how to differentiate the curriculum and how to support special education teachers using the curriculum. Many obstacles specifically afflict special education, the CMSI curricula implementation, and the professional development associated with these curricula (Everyday Math included)—see the Special Education Databrief and the Professional Development Databrief completed by PRAIRIE for further information. These two databriefs demonstrate difficult and as yet unaddressed issues regarding the integration of CMSI curricula with special education. We argue that CMSI leaders must be advocates for a coherent way to implement the CMSI curricula in a special education context if the entire school is to effectively implement the CMSI curricula.

Five written reflections asked for more information about assessment to be addressed at the Everyday Math Leadership Training. Comments regarding assessment included *assessment tools and ideals, centers suggestions, assessment-my colleagues are often concerned with how to grade students*, and *assessments-many teachers tell me that most of their students are failing the EDM assessment*. Assessment was not covered in-depth at the trainings except for the May 8, 2006 training at which participants expressed confusion over the *Beginning, Developing, Secure* (BDS) scale and assessment. Participants thought that the BDS scale was an assessment tool only to be told by the Everyday Math trainers that this was not an assessment tool. The Everyday Math leaders explained that this is a common misapplication of the BDS scale and that those who facilitate professional development should be clear about this distinction in the Everyday Math summer professional development. This confusion and the seemingly common misinterpretation of the BDS scale for assessing student progress aligns with the need for further training on assessment. As illustrated by the written reflections, some confusion still surrounds the concept of assessment and so this topic may need to be more explicitly addressed at future leadership trainings.

5. Please rate the quality of the leadership trainers who you have encountered in Everyday Math training below: (1 is weak and 4 is excellent)

Using a Likert scale ranging from 1-4, the average of the 27 participants who responded to this question was a 3.74 (excellent). The range of answers for this question was between 3-4. Participants were overwhelming positive of the Everyday Math Trainers and discussed their quality in Question #6.

6. Please comment on your response above. What have been the strengths and weaknesses of your trainers?

Written reflection respondents were overwhelmingly positive in their comments regarding the Everyday Math Trainers. Eighteen of the written reflections noted their expansive knowledge; comments such as *presenters were well informed and they were able to pass their knowledge on to participants* and *extremely knowledgeable, good role models, such enthusiasm!* were very common among the written reflections. Presenters were praised not only for their knowledge of the program but also for their knowledge of how the program operates in an urban setting and their ability to relate that contextual information to the group. Best stated by one participant, their strengths are their *knowledge of the program and experiences with using program in our urban areas*. Another respondent had a similar response in stating *the trainers are organized, knowledgeable and choose topics that are relevant to our needs*.

Everyday Math Trainers were also praised in four of the written reflections for their ability to convey the information and facilitate the Everyday Math Leadership Training Sessions. Common among these comments include *they explain quickly and clearly; they facilitate instead of direct; and strengths-providing engaging activities, being encouraging, helpful, give guidance*. The written reflections confirm that the Everyday Math Trainers not only had the necessary knowledge and relevant experience to facilitate the professional development but also possessed the right way to engage the participants and facilitate the sessions so that they were valuable and worthwhile to the participants.

The only agreed-upon weakness of the trainers was the confusion that occasionally resulted from having three trainers facilitate the session. Most simply put in one written reflection, *with three presenters, sometimes there is confusion*. Another written reflection confirmed the occasional confusion among presenters, *they are knowledgeable women, but there are certain times their styles of doing things conflict but [they] are quick to resolve it*. This is the only weakness mentioned by more than one person; in fact, this problem was identified in just these two written reflections. The external evaluator's observational data on the Everyday Math Leadership Training Sessions concurs that the confusion among presenters was rare and resolved very quickly upon occurrence.

7. What has been the most positive aspect of your training with Everyday Math?

The written reflections revealed three common positive aspects of the Everyday Math Leadership Training: (1) meeting other teachers/supporters of Everyday Math (2) understanding the spiraling and (3) understanding the program.

Working and collaborating with Everyday Math teachers and supporters was the most commonly reported positive aspect of the Everyday Math Leadership Training as it was mentioned in eleven written reflections. The majority of these written reflections (10) were written by teachers. Participants' responses to this question frequently stated *working with other teachers, collaboration with colleagues* and *sharing with others in the group* as the highlights of the Everyday Math Leadership Training. The collaborative environment and substantial group work involved in the Everyday Math Leadership Training encouraged the participants to collaborate with and learn from each other. As observed by the external evaluator, the Everyday Math Leadership Training participants were very close and comfortable with each other creating an open and honest environment for discussion around Everyday Math and leadership. Such collegiality and familiarity with each other as observed in the sessions triangulates with comments on the written reflections.

Four of the written reflections claimed the most positive aspect was the spiraling activity. The leadership participants noted frequently in their written reflections the value of the spiraling activities in the Everyday Math Leadership Training. As stated by one written reflection, the most positive aspect of the Everyday Math Leadership Training was *an understanding of how a math strand is developed as you move across grade levels. The explorations on tessellations, polygons, angles.* This participant specifically refers to the tessellation activity, which was part of the April 17, 2006 training session. Other written reflections were more general about the importance of addressing spiraling in stating *looking through the program at one particular strand* and *learning about the spiral curriculum* were the most positive aspects of the Everyday Math Leadership Training. As can be learned from this databrief, spiraling was a very powerful component of the Everyday Math Leadership Training.

The third most common positive aspect of the Everyday Math Leadership Training was program understanding (it was mentioned in three written reflections). As learned from the written reflections from these participants, the ability to know more about Everyday Math in its entirety was the biggest highlight of the training. As one written reflection stated, *my own personal growth with the understanding of the EM program* was the most positive aspect of the leadership training. This comment along with the other comments regarding program understanding implies that these participants have grown in their understanding of Everyday Math. By increasing their understanding of Everyday Math, perhaps the participants can become stronger implementers.

#### 8. What can be improved in Everyday Math training?

The most common (five written reflections) suggested there was no need for improvement for the Everyday Math Leadership Training as noted with *hmmm, n/a, or ?*. This seems to demonstrate respondents' valued these sessions and/or the quality of the Everyday Math Leadership Training. However, two suggested improvements were offered from the written reflections: (1) more content knowledge and (2) suggestions on how to improve math implementation.

Regarding content knowledge, three written reflections asked for more math to further deepen and enhance content knowledge. One written reflection stated, *more on spiraling and deepen content knowledge* which echoes another written reflection similarly stating *more conceptual training to increase the depth of teacher math knowledge*. The third written statement simply

stated that *assessment* could be addressed (assessment, as stated earlier, was a topic suggested to be addressed for future trainings under question #5).

The other suggested improvement, mentioned in three written reflections, suggested how to improve math implementation. Comments from these written reflections stated *continue with activities we can take back to our schools, continue connections to aid in convincing teachers to use and not supplement* and provide *ways to sell the program to my colleagues, the importance of routines, games, pacing*. These comments were also stated during one of the shadowing sessions regarding how to gain access and support teachers' math instruction in CPS.

*What other factors encourage their leadership roles in their schools? What factors prevent them from providing leadership in their schools?*

This section will address the supports and obstacles to fulfilling leadership roles in math instruction in CPS. The data for this section primarily comes from 4 shadowing sessions of leadership training participants. The external evaluator shadowed four leadership training participants and spoke to eight leadership training participants. In order to achieve both greater depth and breadth from the data, the external evaluator shadowed one teacher or school-based specialist at four schools; each of the schools had more than one Everyday Math Leadership Training participant. The external evaluator spoke with all of these people to arrive at the conclusions for this section.

#### *Various Ways in which to Apply Leadership Skills*

The Everyday Math Leadership Training participants who were interviewed and/or shadowed by the external evaluator had different ways to apply skills and knowledge they gained from the Everyday Math Leadership Training. The 2 school-based specialists had similar ways of applying their skills to their leadership roles in supporting math instruction at their schools. These specialists said they used the skills to co-teach, model, support and facilitate math instruction inside the classrooms. These specialists reported that they had a great degree of autonomy and encouragement from their principals to enter classrooms and support math instruction. Their ability to go into classrooms to support instruction encouraged them in their leadership roles.

In contrast, six teachers responded that due to their self-contained classrooms, they were unable to go into other classrooms and provide that same support that the specialists can provide. Because they were restricted to their classrooms, this was a constraint to serving as a leader in math instruction at their schools. All of the teachers, instead, reported that they would use the skills they gained to strengthen their math instruction inside the classroom. The teachers also stated that they would share the information they learned at their grade level meeting; more specifically, they would use the information they learned about spiraling to encourage their fellow-grade level teachers to stay on pace with the curriculum guide.

Another way in which they reported they would apply the skills they learned was to facilitate in-school professional development. This method to apply their skills was commonly mentioned in the written reflections as noted above. All of these participants reported that they would like to provide in-school Everyday Math professional development. Most of them specifically referenced the spiraling activity completed on May 8, 2006 at the Everyday Math Leadership Training stating that they would like to facilitate that activity within their schools.

### *Constraints to Applying Leadership Skills*

While facilitating professional development in their schools was one way in which the leadership participants intended to apply their leadership skills, this option was not viable or plausible for some of the leadership participants due to external constraints. In two of the schools, the Everyday Math Leadership Training participants were unable to facilitate professional development because either (1) as a probation school, the school could not devise its own professional development and instead that decision as made by the area or (2) the principal of the school determined the topic of the professional development and in the past nine years had never chosen math. The inability to facilitate professional development places a constraint on leadership roles teachers can utilize in support of math instruction in CPS.

Another constraint specifically afflicting one of the specialists shadowed was access to teachers' classrooms. The specialist had trouble gaining access to the classrooms, trust of teachers, and opportunity to truly collaborate with teachers in math instruction. This specialist stated that this was a particular problem with resistant teachers. This constraint echoes three written reflection answers to Question #8 in which respondents asked for suggestions of how to improve implementation and gain access to classrooms.

In addition to the constraints in serving as a leader to support math instruction in their schools, teachers/specialists revealed two problems with Everyday Math implementation at their schools that they did not know how to resolve. The first problem they noted related to special education. In two of the schools, school staff had trouble differentiating the curriculum to suit children with special needs. The schools also had trouble with aligning the Everyday Math curriculum to the math taught in self-contained special education classrooms. One participant stated that the self-contained special education classrooms do not stay on pace and skip around the curriculum, making it extremely difficult for those children to go back to their regular education classroom for math. These problems with special education and Everyday Math implementation are similar to those mentioned by the written reflections in response to Question #4.

Another obstacle to Everyday Math implementation was evident in all four of the schools: high teacher turnover both within a school year and at the end of the school year. These schools had many new teachers constantly entering the school, and so they were always faced with issues of new users implementing the Everyday Math curriculum. The participants explained that this was highly disruptive to the consistent and coherent use of the curriculum. While the specialists stated the new users of Everyday math need more support than experienced users, they added that many of their new teachers were not only new users but new to teaching. Because, as the specialists stated, Everyday Math requires good classroom management skills and new teachers have typically not yet acquired this skill, the high teacher turnover makes Everyday Math implementation much more difficult at the school-level. As such, the specialists, specifically, mentioned that they spent the majority of their time with new users of the curriculum more than any other kind of teacher.

### *Encouraging Factors to Applying Leadership Skills*

The shadowing sessions revealed three factors that encourage participants to utilize leadership in math instruction at their schools: (1) when principals are aware of their teachers/specialists' participation in this training, they are more likely to draw upon their leadership skills to

support math instruction in the school (2) when schools have regular grade level meetings, teachers are more likely to have conversations with their colleagues about mathematics (3) when the school can determine what kind of professional development it needs, then these leaders have greater opportunity to facilitate professional development within their schools.

Principal awareness or at least the prospect thereof seemed to be an encouraging factor for serving in a leadership role to support math instruction at the school. For the participants who told their principals that they were participating in the training, the response was always positive. The principals encouraged these participants to conduct in-school professional development on Everyday Math (in the schools that could decide their own professional development topics). Similarly, the principals positively responded that the teachers were *making their school proud* by participating in the leadership training. A few of the leadership participants had not told their principal that they had attended the training, but then responded that they would inform their principals of their participation in the leadership training as they think they would receive a positive reaction.

As stated before, the ability to use grade level meetings to discuss pacing and other math-related issues are an obvious way in which to influence and support math instruction. As demonstrated by respondents' written reflections (Question #3), supporting fellow teachers by grade level meetings is a prominent way to apply the skills learned from the training in a leadership capacity. The participants from these shadowing sessions, namely the teachers, resoundingly agreed that grade level meetings were a forum for them to support their fellow teachers and discuss pacing. Through grade level meetings, teachers seemed to be able to support fellow teachers' math instruction.

The possibility of facilitating professional development within the school setting is another encouraging factor in developing leadership in math instruction in CPS. Those who were shadowed, specialist and teachers alike, stated that facilitating professional development at their schools was one way in which they intended to fulfill their leadership roles to support math instruction. Similarly illustrated by the written reflections (Question #3), facilitating professional development is one of the primary methods in which the leadership participants plan to utilize the skills they learned from the Everyday Math Leadership Training. The discretion of the school to be able to have math professional development is an encouraging factor in which these leadership participants could support math instruction.

### *Conclusions and Recommendations*

The following section focuses on conclusions and recommendations for the Everyday Math Leadership Training project.

As demonstrated by the observations of the leadership training sessions, written reflections of the participants and shadowing sessions with some of the participants, the Everyday Math Leadership Training is regarded with great esteem and of great value by the participants. Specifically of note was the purported gain in program understanding, knowledge of the spiraling throughout the grades, expertise offered by the Everyday Math Trainers and collegial environment in which to discuss Everyday Math and leadership in CPS. The participants reported a greater understanding of the Everyday Math curriculum (specifically the spiraling, the philosophy, and content knowledge). Similarly, participants reported their intentions to

apply their skills learned from the training to support their colleagues via grade level meetings, mentoring, co-teaching, etc (see Question #3 from the written reflections). The participants in their written reflections and shadowing sessions revealed that, if it was possible, they planned to facilitate Everyday Math professional development at their schools immediately and/or sometime in the near future.

While the Everyday Math Leadership Training is of very high quality and well regarded by its participants, the Everyday Math staff continue to strive for further improvement. The following offers some recommendations based on the data collected for this report to be considered and discussed for future trainings.

#### -Composition of Participants

The diverse working positions (teachers, school-based specialists, City-wide Specialists, Area Math and Science Coaches, Everyday Math Facilitators) of the participants created a unique atmosphere for discussion in the Everyday Math Leadership Training sessions. By having such a heterogeneous group of professionals, various perspectives and opinions can be shared and discussed by everyone. However, along with such diverse working positions comes various limitations and responsibilities. For example, as demonstrated by the shadowing sessions, the specialists were able to enter classrooms and support teachers whereas the teachers could not leave their classrooms. How can the training further utilize having such a diverse group of professionals in one room to discuss Everyday Math and leadership? How can the limitations ascribed to various working positions be addressed?

#### -Addressing Special Education/Differentiation Issues

The written reflections and shadowing sessions similarly show that Everyday Math implementation for children with special needs carried its own set of obstacles. Adapting a CMSI curriculum to a special education context is a tremendous obstacle (see Special Education Databrief completed by PRAIRIE) and requires relevant training and knowledge in order to be resolved. Similar to the Everyday Math Leadership Training, other leadership training conducted by different professional development vendors also struggle to address special education (see CMSI Professional Development for Elementary School Staff Databrief completed by PRAIRIE). How can the Everyday Math Leadership Training project address differentiation and special education in future trainings?

#### -Addressing Assessment

As illustrated by the observations of the leadership training sessions and the written reflections, participants are confused regarding assessment and would like that topic to be addressed at future trainings. The issue with assessment, as reported by the participants, is confusing to new users of the Everyday Math curriculum and so, in order to be able to serve as a leader and support these teachers, assessment should be addressed at the Everyday Math Leadership Training. How can the Everyday Math Leadership Training project address assessment in future trainings to reduce confusion?

#### -Supporting Teachers and Accessing Classrooms

As noted by the written reflections and the shadowing sessions, the participants had difficulty supporting teachers in math instruction. The written reflections, in Question 8, suggest that the training offer ways in which the participants can advocate for Everyday Math, gain entry

to resistant teachers' classrooms and support math instruction. One of the specialists shadowed confirms that it is difficult to gain access to some classrooms to support math instruction and to collaborate with teachers. One way in which the participants may be able to gain support is by telling the principal that they are attending the leadership training. As revealed by the shadowing sessions, principals' responses to their teachers and/or specialists attending the training were positive and helped to encourage their leadership capacities in their schools. What other ways can be suggested to support teachers in their math instruction? What ways can be suggested to gain access to classrooms?