

Data Brief

Chicago Teachers Project: Everyday Math Teacher Professional Development, January – June 2004

**Sara Ray Hallman
Stacy A. Wenzel
Sabrina J. Billings**

June 2, 2004

Introduction

This data brief reports a subset of the findings from the external evaluation of the Chicago Teachers Project (CTP). The CTP is funded by an Illinois Board of Higher Education No Child Left Behind Improving Teacher Quality grant for the fiscal year 2004 (IBHE NCLB grant). Dr. Andrew Isaacs of the University of Chicago School Mathematics Projects is the Principal Investigator for this project, which works to support Chicago Public School grades K-5 teachers using the Everyday Math (EM) curriculum. External evaluation for CTP is being undertaken by evaluators from the University of Illinois at Chicago's Institute for Mathematics and Science Education.

The design of the external evaluation of CTP includes the collection and analysis of data about CTP efforts with: a) EM teacher professional development that occurred in the winter and spring 2004; b) EM leadership training workshops, conducted during the 2003-04 academic year and the summer of 2004; c) the EM professional development offered in the fall of 2004; and d) the use of EM in the New Teacher's Network at the Center for School Improvement. This data brief covers activities dealing with point (a) above based on observations of a sample of EM teacher professional development that occurred in the winter and spring of 2004.

Between January 1 and June 30 the CTP offered 24 hours of EM workshops to approximately two hundred participating teachers. These workshops were organized by grade level. This data brief is based on data collected from the latter cycles of this training. The March/April training cycle sessions focused on previewing the content of the remaining curriculum units of the year and identifying potentially challenging materials. The May/June cycle sessions involved reflecting back on the successes and challenges of teaching EM and applying lessons learned to plans for next year.

Evaluation Method

The evaluation reflected in this data brief about EM teacher training was organized around several guiding questions:

1. What is the format and quality of the workshops? Do the sessions model quality professional development practices?
2. What is the quality of the workshops taught by hired consultants in comparison with those offered by the University of Chicago staff?
3. To what extent (and how) do practices learned in teacher workshops carry over into school implementation?

The data used in the evaluation of EM teacher training was a combination of observations of training sessions and the reflections of participants. Considering the above guiding questions, the design of the evaluation is as follows:

Table One: Evaluation Framework

Guiding Question	Design of Evaluation	Amount of Data Collected
1. Workshops	Observations were made using a protocol that framed desired qualities of professional development.	At total of 1218 minutes (~20 hours) from 4 workshop sessions across 2 grades were observed.
2. Consultants	Observations of workshops were sampled so to compare the same session in the same grade level with one led by University of Chicago personnel (Intensive Support Schools session) and one led by a hired consultant (Non-Intensive Support school session).	Given the sessions sampled for observation, comparisons can be made between a pair of instructors in grades K-2 workshops and a pair in grades 3-5 workshops.
3. Impact in School	Teachers were asked how the workshops they attended influence their classroom teaching.	19 teachers attending workshops were interviewed; ten from Intensive Support School sessions and 9 from Non-Intensive Support School sessions. (This was typically 5 teachers from among the 8-30 teachers attending each session).

Data was collected during matched pairs of workshops at two grade levels. These sessions were observed by an evaluation team member using a structured observation protocol, allowing for a detailed analysis of the format and content of the sessions. Interviews with teachers willing to participate were conducted as teachers were leaving sessions, asking for their impressions of the training they have received and the impact of training on their practice. Of the ten Intensive Support (IS) school teachers interviewed, about half (N=4) had attended all but one of the sessions across the year (this number was different since some teachers interviewed were in cycle four while others were in cycle five). Three had attended all but two sessions and one attended only this session. Of the nine Non-Intensive Support school teachers interviewed, 4 had attended more than one session while for 5 it was their first.

The matched pairs of these structured observation write-ups were then compared to understand the similarities and differences between workshops offered by university personnel and those led by hired consultants.

A complication in this design became evident during this study. As mentioned above, the workshops taught by University of Chicago personnel were attended by CPS teachers who worked at Intensive Support Schools in the midst of the Chicago Math Science Initiative (CMSI) that comprehensively supported math education at their school beginning in summer 2003. The workshops taught by hired consultants were attended by Chicago Public Schools (CPS) teachers who were not in Intensive Support Schools and were therefore not as likely to have received as much training to date in EM nor as likely to be getting comprehensive support of their EM teaching. The implication of this issue will be discussed later in the findings.

Findings

Workshops

Format

To begin the consideration of the teacher professional development offered in March to June of 2003-04, we first take a look at the format – what content was covered and how time was allocated – in observed workshops. Written observation notes were first coded to quantify time allocation during the sessions. The following content categories were used for coding:

- Individual work: Time in which participants worked alone on an activity
- Small group: Time in which participants worked on an activity in table groups
- Presentation: Time spent listening to instructor presentation related to teaching and learning
- Full group discussion: Time spent in full group discussion of teaching and learning, generally facilitated by instructor
- "Marketing": Time in which instructors "pitch" participants on the positive benefits of Everyday Math.
- Down time: Lag time, for example, from scheduled to actual starting time, interruptions, etc.

Table Two: Percent of Total Session Spent on Various Activities in a Sample of EM Teacher Professional Development, January - June 2004

	Grade 3-5 Consultant Early March	Grade 3-5 U-C Personnel Late March	Grade K-2 Consultant Late May	Grade K-2 U-C Personnel Early May	Average Across All Observed Sessions
<i>Total Minutes Observed</i>	<i>(332 min)</i>	<i>(323 min)</i>	<i>(268 min)</i>	<i>(295 min)</i>	<i>(1218 min)</i>
Small Group	35.6%	45.8%	23.3%	20.3%	31.4%
Full Group	13.0%	40.2%	26.0%	43.2%	30.4%
Presentation	22.2%	3.1%	31.3%	6.7%	15.3%
Individual Work	8.1%	6.2%	10.5%	7.8%	8.7%
Sales	6.0%	0.0%	3.4%	0.0%	2.4%
Down time	15.1%	4.6%	5.6%	22.0%	11.8%

Analysis reveals that, on average, the largest percentages of time were spent in small group and full group work and discussion, at between 30-32% of workshop time. Instructor presentations and talk were about 15% of workshop time, on average. Approximately 12% of time was spent on activities outside of the scope of the professional development or "down time". This down time included some significant time lost when participants arrived late (for example, one session began close to 40 minutes after the scheduled start time). Down time also includes, in the case of one session, the administration of a survey. About 9% of observed workshop time was spent in individual work. A very small percentage of workshop time across the four sessions, about 2.4%, was spent in instructors "marketing" the Everyday Math curriculum to participants.¹ This time was generally in response to concerns about the link between the curriculum and state standards, the ability of the curriculum to prepare students for standardized tests, etc.

¹ Averaging this across the four sessions hides the more significant proportions of time spent on "marketing" that took place in the non-IS sessions where it amounted to 3.4% and 6% of workshop time, respectively.

Important differences in the time breakdowns between CMSI training offered by University personnel and those led by consultants can be seen in this data. This will be analyzed in the section below.

Quality

Research suggests that high quality professional development encourages reflection on practice, provides the opportunity to apply new ideas, actively involves participants, promotes discussion of challenging intellectual ideas, engages participants as sources of expertise, presents participants with feedback on their practice, and provides ongoing follow-up (Smylie et al, 2001). This understanding of high quality professional development was built into the data collection for this evaluation. The observation protocol aimed to tap the extent to which the sessions exhibited evidence of high quality professional development.

Reflection on practice. The high percentage of time spent in small group (~31%) and full group discussion (~30%) of practice supports the notion that the observed sessions allowed for reflection on teaching practices. In the observed sessions, this interactive verbal reflection was more prevalent than individual written reflection (8.7% of observed sessions was spent on individual work). The predominant approach to reflection in the observed sessions was for teachers to work through curriculum activities and/or solve curriculum problems together. The instructors asked small groups or the full group to reflect upon questions as they were working. Participants were asked to reflect on their teaching practice, the challenges they had or would anticipate having when implementing the EM curriculum and the solutions to those challenges as they worked through curriculum activities. “What tools can you use to help your children solve this problem?” or “What problems did you have in introducing this lesson and can anyone at your table help you to solve it?” were common questions instructors asked.

Time for applying new ideas. The hands-on, group activities were geared toward allowing participants to process new ideas by actually applying them. For example, rather than handle manipulatives as participants in a workshop, instructors encouraged teachers to see and experience them as their elementary school students would. In an activity that previewed two EM units using a hands-on, learning center approach to math, one instructor encouraged participants to “play” with manipulatives the way their early grades students would, asking them to recall what kind of classroom management difficulties they had at the beginning of the year. Participants then shared these challenges aloud and provided one another with management tips to make this process proceed more smoothly in the second year of implementation (Consultant-taught grades K-2 session late May).

Active participation through attendance, discussion, writing activities. The style of the four observed sessions was geared toward active involvement of participants. Presenter “talk” was generally minimal, never amounting to more than an hour and twenty-four minutes in a six-hour day. The sessions were “in motion.” They generally consisted of several activities in which the instructor briefly introduced a new activity and then allowed participants to explore it. Many times the instructor provide participants with questions to consider as they worked. Then the activity was followed by debriefing discussion. For example, in one session, participants were provided with an organizing framework to help them think through the purpose or objectives of an activity introduced in a unit, how the activity could be modified to use at different times in the school year, how it could be used as assessment and the challenges it might present to students. Participants then worked through activities from two units, filling in this framework. The framework was then used to have structured debriefing (University personnel-taught grades K-2 session in early May).

Discourse around challenging intellectual ideas. In University personnel-led sessions, participants were challenged primarily through (a) the learning of difficult mathematical content and (b) problem solving around implementation challenges. An example of (a) above occurred when participants in a grades 3-5 session were given the opportunity to work a “challenge” problem from the EM curriculum. This was an activity involving a picture of a pan-balance with two full bottles on one

side balanced with 18 marbles and a bottle that is half-full on the other side. The information given is that an empty bottle weighs as much as 6 marbles (EM, 5th Grade, Lesson 10.1, p. 343—University personnel grade 3-5 session, late March). An example of (b) above occurred in a grades K-2 session when participants spent an hour talking about challenges they had faced in their first year implementing Everyday Math, providing one another with suggestions on how to solve those problems (University personnel Grade K-2 session, early May).

In sessions led by the hired consultants, the discourse around challenging intellectual ideas tended to be focused on convincing participants that implementing Everyday Math as written would provide children with the skills they needed, both in general and to be successful on standardized tests. Discussion about pacing revealed that a significant portion of participants were not using Everyday Math regularly (Consultant-led grades 3-5 session, early March) and that there was a level of suspicion about the spiraling curriculum and the amount of extra time and work it took.

Discourse around challenging ideas occurred in all four sessions, although the focus of these discussions was different between sessions taught by consultants and those taught by University personnel. Given the difference in composition of the teachers attending the sessions (noted in the Evaluation Methods section and discussed in more detail in the section below on Instructors) this is understandable.

Participants are engaged as sources of knowledge and experience. Sessions pushed participants to problem solve implementation difficulties primarily through the sharing of solutions by fellow-teachers. This occurred in all four of the observed sessions. Teachers were asked to reflect on their practice, to ask questions about the difficulties they were having and to talk about the way they had solved the problems other teachers were having. One teacher who talked to the researcher in an exit interview talked about how the primary gain for her in the EM workshops was the chance to feel like a professional; to share her experiences with others and to be able to have others do the same (University personnel-led grades K-2 workshop, early May). Similarly, another participant stated that she enjoyed the workshops because she felt like she had something to bring and share but also always came away with a new idea or suggestion (University personnel-led grades 3-5 workshop, late March).

Participants receive constructive feedback on their work. Participants were encouraged to speak from their experience, to ask questions and to find solutions to implementation challenges. In each of the four sessions, individual teachers briefly came to the overhead or display in the front of the room to present their approach to teaching a concept, or solving a problem. Primarily, participants received constructive feedback on their work through their verbal descriptions of it and the responses of others to that, and through what they learned from participating in hands-on activities with other EM users. There was less evidence of participants actually presenting lessons to one another or engaging in activities that would allow others to provide them with feedback on their teaching.

Ongoing follow-up. The extent to which participants were given ongoing follow-up to CTP workshop sessions varied. Those participating in the University personnel-led sessions that were part of the support for CMSI Intensive Support School teachers received substantial contextualized, ongoing professional development. These teachers had been attending professional development workshops together since the summer of 2003 and would continue to do so into summer 2004. In addition, they were also supported by Chicago Public Schools' personnel trained in EM who visited their schools and classrooms. This follow-up support came from CMSI efforts and is not a part of the support from this IBHE NCLB grant project. However, it is noteworthy given this evaluation. Teachers in these workshops knew one another and the instructors from attending sessions across the year and were comfortable working together as a result.

The observed sessions taught by hired consultants and attended by teachers from CPS schools other than the Intensive Support Schools had less consistent opportunity for follow-up session to session, as attendance tended to be lower and because some schools sent different teachers to each session, rather

than providing the opportunity for follow-up to the same set of teachers. As a result, the culture of the sessions tended to be less focused on learning, since participants did not know one another and many were attending the March or May workshop as their first professional development session in EM. These sessions, because attendance and participation was less consistent from previous workshops, did not have the same sense of community and ongoing learning as the University personnel-led/Intensive Support School sessions. Further, the teachers attending these sessions did not have specified CMSI CPS staff at their schools dedicated to following up with them in their classrooms around their teaching of EM.

Instructors: University Personnel and Consultants

A Complicating Issue

One of the original goals of this portion of the Chicago Teachers Project evaluation was to provide a comparison between the university instructors and the hired consultants serving as instructors of the Everyday Math teacher professional development. The data collection was designed around this purpose: observations of matched pairs of grade-level workshops, allowing for the comparison of the presentation of the same material by two different presenters.

This task turned out to be much more complicated than imagined when the evaluation framework was designed due to a factor the evaluation team did not anticipate—differences in the populations of teachers participating in the two sessions.

The teachers participating in the two non-Intensive Support School sessions (led by consultants) were generally less enthusiastic implementers of the curriculum, still questioning the spiraling approach and openly questioning the value of the curriculum. One teacher, upon entering the workshop 25 minutes late, announced that she was not using Everyday Math by choice, but only because the principal forced her and that she was convinced that the curriculum would not raise test scores. Another teacher in the session noted that she frequently skipped sections of the curriculum because she did not understand them or want to take the time to prepare for such “complicated and crazy” lessons. At the workshop session previewing EM units 10, 11, and 12, one participant reported being in unit seven, two were in six, and the others were using pieces of the program and skipping around (Consultant-led grades 3-5 early March).

The participants in the non-Intensive Support School early grades session, though generally less resistant to the EM approach, still were very likely to report that they were not using the curriculum regularly, or that the school schedule was not conducive to proper implementation (Consultant-led grades K-2 session, late May).

Given this complication, it is difficult to separate these differences in teacher population from the presentation and teaching style of the instructor. Stark contrasts did exist between the sessions taught by consultants and those taught by University personnel. However, because the populations being served were different, it is understandable that instructors made different decisions in how to teach -- tailoring approaches and goals based on who was sitting in front of them. The contrasts between the work of consultants and university personnel instructors teaching these EM workshops are presented in this section with the caveat that the reader should keep the difference in populations taught in mind.

Some Possible Differences

Instructor-centered presentation and teacher participation. The first notable difference in the presentations of university personnel and consultants is in the number of minutes spent in instructor-centered presentation. University personnel, in the two observed sessions spent only ten and twenty minutes respectively presenting material, just 3 to 7% of the total session. The presenters were exceptional at doing very minimal amounts of talking. They briefly introduced the activities and then

allowed participants to engage in activities. The presenters were there primarily as facilitators. For example, the excerpt below from the observation notes of a grades 3-5 session exemplifies this.

The university personnel instructor introduces the math message and asks teacher participants to describe one way their implementation of Everyday Math has improved since the beginning of the year and one success they experienced with Everyday Math. Teachers write on it. The teachers then discuss this in small table groups. The instructors then ask the teachers to share their experiences with the larger group. Eight teachers respond as follows:

Teacher 1: My pacing has improved.

Teacher 2: The lack of mastery made me nervous at first, but I am becoming more comfortable.

Teacher 3: There are kids who last year would have said ‘math is hard and I don’t like it’ who now enjoy it. Their enthusiasm is there and that has made me more enthusiastic. There are much more comfortable with Algebra then they were and they are not afraid of that word.

Teacher 4: I am still struggling a bit with parts of the content, but each unit is getting easier.

Teacher 5: In the past, if the kids couldn’t get it right away, we just didn’t cover it. I think we are challenging them more than we were before.

Teacher 6: The kids were shocked at how much easier the ISAT was this year because of Everyday Math. Even the extended response.

Teacher 7: I am getting better at staying more than one step ahead of the kids. I am more prepared and confident and that is making the kids more confident.

Teacher 8: I started out afraid and then I just had the books so I used them and all of the sudden it started working. And I have transitional bilingual students and I didn’t know if it would work, but I have been able to teach stuff through the games that I hadn’t been able to teach them the previous years. Like the percentage circle. I never got to that before, I forgot about it. The names of triangles. The transitional bilingual students were able to learn that!

The extent of participation in small table group and full group activities varied between university personnel-led/Intensive Support School and consultant-led/non-Intensive Support School sessions. The two university personnel-led sessions had, in general, more teachers participating in conversations at the full group level. Consultants in the non-Intensive Support School sessions asked very good questions, attempting to engage participants in full-group discussions about their experiences or debriefing an activity. In many cases, no one would volunteer an answer, leading the instructor to fill in answers. An excerpt from a consultant-led/non- Intensive Support School grades K-2 session observation notes exemplifies this:

The consultant instructor introduces number stories. Teachers then work on creating their own number stories. The instructor talks two individuals into presenting their stories to the group. The instructor then attempts to engage the whole group of teachers in discussion:

The instructor asks: “What level are your children at in your room at this time in the year?” “Could they do work like this now, at stage 3 or 4?”
None of the teachers respond.

The instructor then asks: “What are the positives and negatives to thinking about numbers in this way, in the form of a story?”
No one responds.

Again, the instructor queries: “What materials can you use in your room to connect these stories to ways of thinking that accesses the knowledge of different kids?”
No one responds.

Finally the instructor comments: “If something comes up in your thinking on this, let me know.” The instructor then moves on and provides her answers to the questions asked above.

The difference in the response of participants is evident in the two excerpts above. However, it is difficult to untangle the extent to which the difference in response is due to participant characteristics or instructor actions. Five factors seemed to contribute to the differences in the amount of instructor “talk” and the level of teacher participation in discourse. In the sessions led by consultants and attended by teachers not in CMSI Intensive Support Schools the following five factors related to lower levels of participation compared to that in the university personnel-led sessions.

1. Teachers made less regular use of Everyday Math curricula and thus had less knowledge of the materials.
2. Teachers had lower attendance rates and the group attending a given session was not consistent across the year because some schools sent a variety of teachers to the workshop rather than the same teacher to the full set of sessions.
3. The teachers were more likely to struggle with the Everyday Math approach to mathematical content.
4. The consultants had less experience in facilitating dialogue with reluctant participants – in “pulling responses” from the teachers attending.
5. The IS sessions were staffed by two university personnel while the non-IS sessions were staffed by one consultant. Having two presenters in the room allowed them to support one another in a way that was productive for the session. For example, one university presenter could engage in a conversation with a teacher who was having difficulty while the other could move the session forward. And, the two could circulate while teachers were doing individual and small group activities, asking reflection questions and deepening the conversations and thinking of participants. Having two expert presenters in the room made the work easier and deeper.

It should be noted that the consultants who led non-IS sessions were extremely creative and resilient in dealing with the lack of responsiveness of their participants. One instructor talked to small groups and individuals during activities and then if no one responded to reflection questions in group discussions, she would note that, for example, “Sue had a very interesting comment during the work time that is applicable to this question.” Then the consultant would ask Sue to share her thoughts. Another consultant, when no one responded to her reflection questions, kept encouraging teachers to “bring your thoughts on this or anything else up at any time.” She did this every time she sought participation

before offering her own thoughts and moving to the next topic. The consultants' expression of their enthusiasm for Everyday Math was not diminished by a lack of response from teachers and they were positive, focused and energetic throughout the workshops.

Coverage of material. The second notable difference between the university personnel-led and consultant-led sessions was in the approach to and depth of the coverage of the same materials. For example, in the grades 3-5 sessions, instructors worked through a set of activities using a pan balance in unit 10. The activity involved teachers previewing the lesson, and then working through a set of balance problems, using the pan-balance and then completing a worksheet. The consultant instructor ran the session by introducing the activity. The consultant demonstrated the use of the pan balance, but was unable to make it balance correctly. She abandoned it and moved quickly into the worksheet. The teachers were given some time to work through the balance problems and then the instructor walked through each problem on the overhead, asking participants to provide their answers and talk about how they solved the problem. The instructor asked if others had different ways to solve each problem, stressing that children would have diverse approaches (Consultant-led grades 3-5 early March session).

The university personnel-led session was framed slightly differently. The instructors explained that the participants would be previewing the content from the unit. They stressed that they understood that this was the first year of implementation for the participants and that many of them might not get to unit ten by the end of the year. They encouraged teachers to have the goal of getting to unit ten next year. The instructor told the teachers "We know you are doing the best you can and we appreciate that but we can also push it a little next year knowing what you know now."

The university instructors next asked participants to read over the unit preview and to write down the big topics or goals that would be covered and what challenges they might anticipate in introducing the lesson. After the teachers had a chance to write about the unit preview and share in small groups, they then talked about their preview in the larger group. In the process, the instructors noted that the pan balance sometimes was difficult to use: "These are not exact measurements, this is something you can stress with your kids. They are 'about' measurements," one instructor noted. "They can be difficult to use but boy is it worthwhile to play with them to get it right because the learning is just so wonderful," noted the other instructor. The participants worked through the pan balance worksheet in table groups. The instructors then led them through a discussion of each in turn. For each, teachers presented their answer. The instructors would then ask a follow-up question: "How is this algebra?", "What tools can you use to help your students solve this problem?", "What can you do for students who struggle with this?"

The difference in the approach to and depth of the presentation of materials seemed to stem from four major factors:

1. The teachers from non-Intensive Support Schools in the consultant-led sessions did not engage readily in the dialogue in the same way their counterparts from Intensive Support Schools did in sessions led by university personnel. Therefore, the instruction was more centered on the consultant in their sessions.
2. The university personnel framed the dialogue in their sessions in a few critical ways that favorably shaped the experiences of teachers in their sessions. The consultants leading sessions did not frame their sessions as strongly in these ways. This framing included:
 - A structured preview of the EM lesson that was to be explored in the session. This resulted in richer discussions and deeper understandings of the purpose of the session.
 - An up front acknowledgement of the difficulties to expect during the lesson, especially in using some equipment. The university personnel explained that the pan-balance was a difficult tool and when the teachers worked with it, showed enthusiasm for the outcomes even if imperfect. In contrast, the consultants did not talk about this at the start of the

lesson and teachers in their group who were skeptical about EM to begin with found the imperfection of the tool one more reason to discount the curriculum.

- Noting that not all of the teachers attending would be teaching the EM lesson reviewed that day. The university instructors were empathetic and understanding of the fact that first-year implementers were unlikely to reach unit 10. They stated this up front but suggested the activity was still valuable.
3. Although it is true that the consultant instructors could have framed the content to be reviewed differently, teachers from non-Intensive Support Schools sessions were even further behind in the pacing than the Intensive Support teachers. Previewing unit 10 may not have been an appropriate activity for them.
 4. There were fewer ongoing reflection questions in the sessions with non-Intensive Support teachers. These questions kept the session moving and deepened the inquiry in the Intensive Support sessions. It is likely that the lack of the use of such questions was a combination of both the lack of participant responsiveness in non-Intensive Support sessions and a lack of experience of consultants in this practice.

Impact in Schools

The third and final evaluation question for the consideration of the teacher professional development component of Everyday Math is about the effect of the training on teacher practice. Everyday Math staff wondered: Do these workshops actually have an impact on practice? Do teachers take lessons learned in the workshops and apply them in their teaching?

Five teachers in each of the four sessions were given brief exit interviews on this topic.² They were asked to talk about their experience in the workshop that day, and on any other cycles of workshops they had attended, and to comment on the connection to their work in school.

For the teachers in the sessions for Intensive Support Schools, when asked about the effect of workshop participation on implementation, responses clustered around three themes: a) courage to attempt new/challenging content; b) ability to allow students more independence; and c) understanding that implementation challenges were shared, and thus greater perseverance to solving them. Below are examples of comments.

- Courage to attempt new/challenging content: *Knowing that others in the workshop are trying and struggling with new and challenging lessons makes me more willing to try it myself. I was always eager to go back for the next workshop or to shoot someone an e-mail and tell them how it went, ask for advice and things like that.*
- Ability to allow students more independence: *Coming to these workshops and using these materials has changed my way of thinking about teaching. I don't think just being given the materials would have done that for me. It was in interacting with other teachers who could let go and let students explore even if it meant rubber bands got shot around the room. And so I allowed my students the chance and they surprised me at what they could do.*
- Understanding that implementation challenges were shared, and thus greater commitment to solving them: *I admit, I started out defensive because I really couldn't get the curriculum to work. But when I found out it wasn't just me, that this was normal, I started to embrace the challenges. Interacting with other teachers here did that for me.*

² The original evaluation plan proposed the collection of written reflections from consenting participants in each of the four sessions. Because of how full the agendas were for each session and because participants were already writing evaluations of training for the school system, I opted to do verbal reflections with a sample so as not to take time from the session or be confused with district mandated evaluation.

The nine teachers interviewed from the session for non-Intensive Support Schools had a different set of responses to the impact of the workshops, although they were also generally positive. Responses clustered around two major themes: a) gaining a new idea to try in the classroom and b) exposure to new ideas. Below are examples of comments.

- Gaining a new idea to try in the classroom: *I came in thinking I would get nothing out of this since my principal basically forced me to go. But I think I may try one or two of those pan-balance problems. I am not getting out that real pan-balance, the thing doesn't work. But maybe that challenge problem on a special day.*
- Exposure to new ideas: *I saw some new things. I am not sold, but some of it was interesting.*

It should be noted that those interviewed from non-Intensive Support School workshops were very positive about the instructors who led their sessions. They were especially thankful that the instructors were “teachers with experience in the classroom” and that they “were not forceful”. Both instructors were very good about reading where the teachers in their sessions were and responding to that, altering purposes and goals in a way that made sense for the participants.

The comments of participants in the Intensive Support and non-Intensive Support workshops demonstrates a difference in the level of engagement of the two groups of teachers in the curriculum and situates them in two different locations on the continuum of the change process. Intensive Support School teachers, who were generally at a higher level of implementation, went more deeply into materials and discussions of purpose and implementation. Their outcomes from participation were thus deeper: they were becoming more confident to try challenging content, to allow their students independence and to engage in solving implementation problems. Non-Intensive Support School teachers, who came to the workshops less frequently and with less implementation experience had more shallow exposure to workshop content. Their outcomes for participation were, in some cases, simply exposure to Everyday Math and perhaps a new willingness to try some lessons.

Interestingly, the criticisms follow a similar pattern. The major criticism of teachers participating in the IS workshop was that they longed for more opportunities to have colleagues give them feedback on their implementation: *I know [Everyday Math staff] can't be in my school or anything but I wish I had a chance to have people in the workshop look at me actually teaching and give me ideas*, stated one participant. *We talk about implementation and see materials as a student would but I would like to see more focus on my teaching itself*, commented another. These teachers have reached a level of sophistication in their development as teachers, and a level of trust with one another, that they want to take the next step in opening their practice to one another.

The criticisms of the non-IS teachers were exactly the opposite. Comments were generally about how they longed for more instructor guidance and activities that were less participant-centered: *I came here to listen to someone who knows more than me. So why ask us what we think so much when we don't know anything?* stated one participant. *She [the instructor] was great but she could have talked more and we could have done less activities in groups*, stated another. These comments support the notion that these two groups of participants may be at different developmental stages in the implementation process and thus goals and framing might need to be different for these two groups.

Conclusions

We close with a set of conclusions on each of the three evaluation inquiry sections: Workshops, Instructors and Impact on Schools. It is important to note that these evaluation analyses and findings are based on limited and preliminary data. Additional data collection in each of these areas would be necessary to make more solid claims about the findings. It is the hope of the evaluation team, however, that these preliminary findings will provide a new and useful lens to consider program planning and improvement.

Workshops

Based on our four structured observations, there was evidence that Everyday Math instructors shaped sessions using tenets of high quality professional development. Teachers attending sessions reflected, applied ideas, were active participants, discussed challenging ideas, and were engaged as experts to a large extent. While teachers received some feedback, this was an area where teachers in the Intensive Support School sessions craved even more constructive feedback on their own teaching practice. Still some follow-up component was built into the workshop as teachers attended at five time points throughout the school year. This follow-up process was short circuited by the non-Intensive Support School teachers in that their attendance rates were lower and for some schools, different teachers were sent to the sessions throughout the year.

The workshops were set up to work well with teachers who attended throughout the school year. Schools need to be sending the same participants to the workshop across the year in order to gain the full value. Still, even with more consistent attendance, there may be good reason to reassess the format and goals for the sessions for the teachers in the non-Intensive Support Schools. These teachers appear to be using the materials less frequently and have less school-based support for teaching using new standards-based approaches.

In brief, findings to date suggest a few areas that the Chicago Teachers Project may want to attend to:

- Finding ways to minimize or better address the shifting population in some workshops. As organized, the workshops are most suitable for a more consistent population of attendees.
- Framing goals and purposes differently so participants who are not at total implementation still feel information is pertinent and relevant to them.
- Considering possibilities for teachers to get additional feedback on their teaching of EM lessons. There may be ways to allow teachers to present lessons for colleague feedback at workshops by bringing in videotaped lessons or presenting lessons to one another in groups, etc. This would be time-intensive, perhaps too much so, for workshop sessions. Creative problem-solving around this issue may be needed.

Instructors

Analyzing the comparisons outlined in the section above, there are a few areas to be considered as the Chicago Teachers Project works to improve its work with the support of a larger cadre of instructors who are also dealing with teachers with a wide range of experiences. The Project may want to attend to:

- Working with consultants on how to frame a lesson so to set the stage according to the needs of a given group of participants.
- Working with consultants on the use of reflection questions throughout the introduction of materials to promote greater teacher participation.

Impact in Schools

Data collected suggest that teachers participating in Everyday Math workshops do talk about the workshops influencing their teaching. Participation in workshops: (a) gave some teachers more courage to try difficult content or challenging lessons; (b) made them more open to giving their students greater independence; and (c) helped them to accept and embrace the challenges of implementation. These benefits seem to be rooted both in the consistency of participation by those interviewed and on the approach of instructors. The sense of community encouraged teachers to buy in and to learn from one another. The approach of instructors, empathetic and positive, showed teachers that the challenges they

were having were “typical” and “expected” and that they “would go away”. This encouragement gave teachers courage.

Data also suggests that even the limited exposure of one workshop did have an effect on teachers, though they were more modest than those achieved by teachers engaged in higher levels of implementation and professional development. Those interviewed who had attended a single workshop suggested that they were willing to try an activity or that they learned something new.

The Chicago Teachers’ Project may want to create activities that will both encourage and assist in the tracking of impact of workshops in schools. For example:

- Have teachers keep a journal in which they reflect on what they learn in workshops and apply it in the coming week or month in teaching. Ask them to come back and share what they wrote at the next session, documenting and data basing these stories.
- Give teachers an “assignment” of something to observe or try in class, have them return to the next workshop session prepared to talk about it, collecting and documenting these stories.