

**Chicago Teachers Project:
Final Summative Report
2004-05 Grant**

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Introduction

This data brief provides a summative look at the findings from the external evaluation of the Chicago Teachers Project (CTP) in 2004-05. The CTP was 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 was conducted by evaluators from the University of Illinois at Chicago's Institute for Mathematics and Science Education.

The design of the external evaluation of CTP included the collection and analysis of data about CTP efforts with: a) EM teacher professional development; b) EM leadership training workshops; and c) the creation of a math strand in the New Teacher's Network (NTN) at the Center for Urban School Improvement (USI). Data briefs providing an overview of evaluation data collected and formative findings were written on each of the three strands.¹ This data brief provides an overview of the findings of the three strands of work in 2004-05 in light of one another, providing summative remarks on the CTP as a whole.

CTP Goals and Overview

The Chicago Teachers' Project for 2004-05 had three overarching goals:

- i) To improve student achievement in mathematics at Grades K-5 in the CPS;
- ii) To improve the quality of mathematics instruction at Grades K-5 in the CPS; and
- iii) To develop local leadership that can sustain long-term improvement in mathematics instruction achievement in the CPS.

These goals were to be accomplished through three strands of work: a) the training of Chicago Public School teachers in the Everyday Math curricula, using a grade-level, cohort based approach; b) the training of a group of leaders who were to lead professional development workshops on Everyday Math materials; and c) the creation of a math strand in the New Teachers Network at the Center for Urban School Improvement, exposing new teachers in the program to standards-based materials and approaches.

Evaluation Guiding Questions & Method

¹ Please see the full reports for evaluation design and findings: Hallman, Wenzel & Billings, June 2, 2004; Hallman, September 23, 2004; and Stoelinga, February 15, 2005.

Evaluation of each of the three strands was focused on a similar set of questions to guide data collection and analysis. These questions focused on:

- a. The format and content of the workshops
- b. The quality of workshops and the extent to which the sessions modeled high quality professional development practices
- c. The impact of the professional development, measured through participant self-report

In answering these guiding evaluation questions, data collected across the three strands included:²

- a. Semi-structured observations of workshop sessions using an observation protocol (2272 minutes/ ~ 38 hours)
- b. Coding of workshop observations to analyze session time usage
- c. Coding of workshop agendas to analyze session time usage
- d. Analysis of workshop observations using a framework to assess the quality of professional development
- e. Interviews with participants (32)
- f. Written reflections with participants (14)

Findings

In this section, conclusions from the three strands of CTP work in 2004-05 are summarized. The concluding section of this report considers the findings collectively and in light of grant goals.

Teacher Professional Development (PD): January-June 2004

Evaluation of teacher professional development focused on: a) the content and quality of workshop sessions; b) the quality of instructors, comparing experienced university personnel with consultant workshop providers; and c) the impact of teacher professional development on teachers, based on their self-report.

A. Teacher PD Workshops

Based on four semi-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.

Two areas were identified for CTP staff to pay attention to: schools that were sending different teachers to each session, disrupting the cohort plan and the needs of teachers in non-Intensive Support schools and how they might differ from those in Intensive Support schools.³

² For a more detailed consideration of the data collection and analysis, please see the project data briefs: Hallman et al, June 2, 2004; Hallman & Wenzel, September 23, 2004, and Stoelinga, February 15, 2005.

³ Intensive Support teachers were from schools chosen through an application process by the Chicago Public Schools' Office of Math and Science as especially well-equipped in terms of leadership, commitment and collaboration to implement new math or science materials and were provided with

The workshops were set up to work well with teachers who attended throughout the school year. Schools that sent different teachers to each session disrupted the cohort model which aimed to build a community of learners and to build knowledge cumulatively across the year. Teachers attending mid-year for a single session were often confused and lost, not having had the benefit of the earlier sessions.

At the same time, findings suggested that 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 appeared to be using the materials less frequently and have less school-based support for teaching using new standards-based approaches. As a result, workshop sessions, which assumed their regular use of the materials, did not meet these teachers where they were.

B. Teacher PD Instructors

Sessions led by expert university personnel were compared with sessions led by hired consultants, through matched-pair sampling of the same grade-level sessions. This turned out to be a difficult comparison because the university personnel-led sessions were given to teachers from Intensive Support schools while those led by hired consultants were given to teachers from non-Intensive Support schools. Thus, the differences identified in the sessions were difficult to attribute directly to the instructors when the populations being served were different. However, analyzing the data, there were a few areas recommended for consideration for the Chicago Teachers Project to improve teacher professional development being provided by consultants:

- 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.

C. Impact of Teacher PD in Schools

Data collected suggested that according to participants, Everyday Math workshops did influence 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 were rooted both in the consistency of participation by those interviewed and 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 suggested 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

monetary and human resources to implement the Chicago Math Science Initiative. Non-Intensive Support teachers were from schools implementing the math or science materials under probation mandate or voluntarily. More details about this can be found in Hallman et al, June 2, 2004 and Stoelinga et al, 2005.

a single workshop suggested that they were willing to try an activity or that they learned something new.

Leadership Training

Leadership training was described and analyzed for workshop content, quality and impact. Each of these three areas is considered in turn, summarizing the larger data brief findings.

A. Leadership Workshop Format and Content

The format of Everyday Math leadership training workshops was largely devoted to small group work and full group debriefing and discussion. Trainer presentations were limited to short spurts of introductions of and transitions between activities and the drawing together of lessons learned as the session progressed. Content of the session focused on the introduction of mathematical concepts that demonstrated Everyday Math material approach and philosophy. Layered upon these activities were opportunities for participants to consider content across grades, to practice their presentation and communication skills and to improve their leadership skills. The Everyday Math staff members were impressive in their ability to layer these multiple goals, of building math content knowledge, of exposure to Everyday Math materials and philosophy and of developing leadership skills into a single activity. This fact made the workshop sessions very cohesive and demonstrated well the ways in which these various, multi-levelled goals were related.

Participants were generally highly complimentary of the format and content of Everyday Math leadership training. There were two main suggestions of how to improve the content and format. In the first place, respondents nearly universally thought that training should ideally span an entire academic year. “Starting at the beginning of the year would have got us thinking about being a leader right away,” stated one participant. “I felt like the learning in the workshop gained momentum at about session three that would have made a few more months really beneficial,” stated another. Secondly, participants were concerned about finding ways to integrate the Chicago Public Schools’ context into the workshops. “I thought that we started out the first sessions really focused on what being a leader in CPS meant,” stated one respondent. “But I worried that it became a sort of ‘one size fits all’ instead of really applying what we were learning to *our* school, *our* district.” Participants wanted to have the time to make more explicit connections between lessons learned and their meaning in their own school or district context.

B. Leadership Workshop Quality

The Everyday Math leadership training exhibited many of the components of high quality professional development. Small group work and full group discussion allowed for reflection on practice. Hands-on activities allowed participants to actively engage and apply new ideas. Workshops pushed participants to challenge themselves to expand their knowledge outside of their grade level to become more competent in the Everyday Math materials.

Participants suggested that they would benefit from expanding workshops into the school and professional development training settings. They were complimentary of the format, content and trainers of the workshops, but wanted the lessons they learned applied contextually, in their school setting. Participants wanted to have more formalized feedback as they applied what they had learned in leadership training to teach children or other teachers. They suggested having peers or Everyday Math staff members observe and critique their work.

For the group of teachers who were chosen to offer professional development in the summer and fall of 2004, many had suggestions for future training or support that would be useful. Several commented that it would be useful to have training on how to deal with the “overly enthusiastic” or “overly negative” teacher in a workshop to insure that a single voice did not dominate the session. Having training on the nuts and bolts of offering workshops was said to be something that would be of assistance in the future.

Similarly, those interviewed who offered summer and fall training thought it would be helpful to have a more formalized way to debrief and problem solve with others offering workshops. Slating debriefing time within a workshop to “check in” over lunch, or an e-mail contact system was suggested.

C. Leadership Workshop Impact

The 13 participants in the Everyday Math leadership sessions who were asked about their experiences were generally highly positive about the training they received. About half of respondents stated that the training had increased their ability to function as leaders in mathematics in the district or in their school. Those who responded positively to this question talked about their increases in mathematical knowledge, presentation skills and improvement in their ability to implement Everyday Math. Respondents were positive about the trainers who led the workshops, about the game playing and cross-grade level approaches and the ability to network with peers and with the Everyday Math staff.

Another possible way to comment on the impact of the Everyday Math leadership training is to consider the staffing of the teacher training sessions in summer and fall of 2004. In the summer of 2004, Everyday Math had three professional development workshops for Chicago Public Schools’ teachers. Twenty-four trainers were used to staff these training sessions: 13 were Chicago Public Schools’ employees who had taken leadership training during 2004; 11 were from other districts. In the fall of 2004, Everyday Math offered two “make-up” sessions for teachers who missed the summer training. Fourteen trainers were hired for these workshops. Thirteen of them were participants from the Everyday Math leadership training while only one was from outside of the district. The building of capacity of these leaders has its foundation in the Everyday Math leadership training. These trainers are a product of the training that clearly did help to expand the number of Chicago Public Schools’ employees available to lead the increasing number of sessions needed for Everyday Math users in the district.

New Teacher Network (NTN) at the Center for Urban School Improvement

This section of the data brief provides a summary of the data brief on the NTN math strand, with analysis of workshop format, content, quality and impact.

A. NTN Workshop Format and Content

Descriptions in the format and content sections of the data brief provide evidence of an effective format of the NTN Y2 teacher workshops. The organization of activities to involve participants in small and full group discussions and work on activities together was engaging to teachers who voluntarily attended the meeting after-school. The flexibility and dynamic atmosphere was a great strength of the NTN math strand. This same flexibility, however,

often left planned activities uncovered due to the late starts that took 30 minutes of workshop time from the facilitators.

The introduction of math activities and content in the NTN math strands came from many sources. This was described in the data brief as at the same time a source of strength and weakness for the NTN math strand. The great richness of perspective that the many materials provide was impressive. NTN participants used the materials, or portions of the materials, or adapted forms of the materials, in their classrooms as they found them to be most useful. The down side to this approach was a lack of coherence in the approaches and goals of the math strand in NTN, especially in relation to the Chicago Math and Science Initiative (CMSI), with which the CTP is supposed to align.

It was suggested that NTN staff may want to consider the time allocation in workshops. Does the first 30 minutes of workshop time primarily serve a social and community-building function? If so, content of workshops may be altered to fit the 2-hour timeframe so that activities do not have to be condensed or cut. If the 30 minutes is to be an instructional time, perhaps the workshop start time could be pushed back to 4:30, or shorter meetings could be offered more frequently.

The data brief also suggested that the content of the NTN math strand for Y2s would benefit from coordination of the math activities and ideas, through a tightening of goals of the math strand and aligning workshop materials and approaches to those goals.

B. NTN Workshop Quality

Analyzing workshop quality using the professional development framework revealed that the NTN math strand sessions reflected high quality practices. Participants reflected on practice, applied new ideas, actively participated, were challenged with new ideas, were engaged as sources of knowledge and received constructive feedback on their work.

Suggestions for improvement focused primarily on the coherence of the work being done in the math strand. The approaches and activities engaged teachers in critical inquiry and deep dialogue about their practice. Teachers reported that they appreciated being exposed to different ways to teach and think about mathematics. At the same time, however, it was unclear whether the math content provided fit into the context in which NTN teachers worked, especially if they are using a math curriculum that required staying on a daily schedule.

It was also recognized that twenty-one of 29 NTN teachers in the math strand reported using CMSI curricula. It was recommended that USI staff draw upon curriculum office or district expertise to build NTN math content that was coherent with these curricula.

C. NTN Workshop Impact

The written reflections of participants revealed high levels of satisfaction on the part of teachers participating in NTN math strand workshops and mentoring. In written reflections, teachers reported important skills they gained from their participation in NTN. These ranged from better understanding of math concepts and diverse ways to teach them, to knowledge of and access to materials, to shifts in thinking about teaching techniques. Some participants also reported benefiting from NTN staff mentoring visits. They reported NTN staff was providing

demonstrations for them as well as observations of their practice, modeling and suggestions of new ways to organize classroom instruction.

Findings indicated that the impact of NTN math work would be improved by increasing the frequency of mentoring visits devoted to mathematics. Descriptions provided by participants in written reflections primarily focused on literacy. In addition, participants wished for more feedback, especially if they received an observation visit.

Evaluation data on the impact of NTN also revealed the need for a careful consideration of the characteristics of the teachers being served. The survey information given by participants revealed a set of schools, Areas, grade levels, and gender of participants. The data brief encouraged USI staff to define the goals of the NTN math strand in terms of the background of teachers they hope to support and if these goals are represented in the teachers who are participating in NTN.

NTN Goals

Finally, in collecting the data and conducting the analysis for the NTN strand of the CTP, it became clear that NTN and EM have different ways to address the CTP goals outlined in the grant. Evaluation results encouraged a more careful alignment of CTP work between USI, EM and the Office of Math and Science (OMS). The data brief included a recommendation for some open dialogue, between NTN, EM and OMS staff about coordinating their work. This conversation was hoped to increase the coherence of what was being done in the CTP and to enrich the work of both NTN (through coordination with the district) and EM/OMS (through expanding opportunities for training in teacher leadership and problem-solving).

Project Meetings

The Chicago Teachers' Project partners have met throughout the grant year to: a) discuss evaluation findings and project progress; b) discuss evaluation findings and project progress with external agencies; c) expand partner work into other grants and projects; and d) plan for work and evaluation for the 2005-06 grant year. A summary of these meetings and their topics are outlined in the table below. Participant lists include University of Illinois-Chicago external evaluators (UIC), Everyday Math staff (EM), Center for Urban School Improvement staff (USI), Chicago Public Schools' Office of Math and Science staff (OMS) and professional development providers from the Chicago Math Science Initiative (PDPR).

Meeting date	Topic	Participants	Location
June 9, 2004	Discussion of Teacher Professional Development data brief findings	UIC, EM	UIC external evaluation offices
July 6, 2004	Presentation of Teacher PD data brief findings to PDPR	UIC, EM, PDPR, OMS	OMS offices
September 20, 2004	a) Discussion of Leadership Training data brief b) Planning for NSF grant	UIC, EM	UIC external evaluation offices

March 16, 2005	Discussion of Leadership Training program and evaluation plans for 2005-06	UIC, EM	EM offices
April 7, 2005	a) Discussion of NTN data brief b) Discussion of aligning work of EM/USI/OMS c) Discussion of 2005-06 grant	UIC, EM, USI, OMS	USI offices
April 15, 2005	a) Presentation of external evaluation findings at American Education Research Association conference b) EM staff as discussant	UIC, EM, OMS	Montreal
April 26, 2005	Discussion of aligning evaluation of Chicago Math Science Initiative and CTP	UIC, EM	UIC external evaluation offices
May 10, 2005	a) Discussion of aligning work of EM/USI/OMS	UIC, EM, USI, OMS	OMS offices

The summary of meetings provides evidence of the sharing of evaluation findings, and of the deepening and expansion of partner work together. CTP staff met together to discuss the findings of each of the three formative data briefs on each strand of the 2004-05 CTP work. In addition, the partnership began to deepen. Partners met together to discuss and write a Department of Education grant together for work in developing measures of implementation fidelity around the Everyday Math materials.

An additional partner was added to the CTP, the Chicago Public Schools' Office of Math and Science, for 2005-06. In early April, 2005, the full set of partners met together for the first time to discuss aligning their work in teacher professional development in math in CPS. Stemming from this meeting was a commitment for the partners to meet more regularly, identifying ways to make their collective work more coherent and drawing on organizational strengths of each. May 10th will be the next meeting of the partners to continue this discussion.

Summative Conclusions

The 2004-05 CTP project had three goals: the improvement of student achievement, the improvement of quality mathematics instruction and the development of local leadership to sustain long-term improvement in math instruction in Chicago Public Schools. These goals were to be achieved through teacher professional development, the training of a cadre of

leaders to offer professional development and through the designing of a math strand in the New Teacher Network at the Center for Urban School Improvement.

Achievements during 2004-05 were threefold. Firstly, the partners offered professional development of a high quality format. The teacher professional development, leadership training and the math strand of the NTN each modeled high quality practices in their sessions. The use of small group work and full group discussions, the centering of sessions on hands-on activities, and the utilization of participant expertise made the professional development in each of the three strands of high quality.

Secondly, there was evidence in the case of each strand of high levels of participant satisfaction with professional development training. In written reflections, surveys and interviews, participants in the teacher professional development, leadership training and the NTN math strand suggested that what they were learning was worthwhile.

Thirdly, there was evidence from the teacher professional development and NTN math strand that teachers were applying what they were learning to their own teaching. Participants in the teacher professional development indicated that the training gave them more courage to try difficult content, made them more open to giving students more independence and helped them to embrace the challenges of implementing challenging materials. A portion of NTN math strand participants indicated that they were trying activities from the workshops in their own rooms, and bringing back the successes and challenges in trying the activities as well as student work to discuss in NTN meetings.

Several challenges were identified in the work of the CTP. First, in the teacher professional development strand, it became evident that issues of both the differential experience of trainers as well as the divergent needs of workshop participants need ongoing attention. Professional development training, while high quality, varied in its ability to address participant needs. This was due to differences in the approaches of trainers and to the high needs of participants from low-content, low-implementation backgrounds.

Secondly, in the teacher professional development sessions and the leadership training it was clear that some participants felt that they needed additional support that reached into their own context. Participants longed for training that spanned beyond a workshop setting and into their own schools and classrooms.

Thirdly, challenges were identified with the math content in the NTN math strand. High quality workshop format and mentoring design was challenged by a lack of coherent goals, the small size of the staff, and the lack of staff expertise in mathematics. In terms of math content, USI staff talked openly about their lack of expertise in standards-based math materials and the difficult process of building the math strand from the ground up. Of the three strands, the NTN reached the most directly into classrooms with the mentoring design. Here, however, limitations on staff size meant that most participants reported having mentoring around literacy rather than math. Participants also reported that the small size of NTN staff limited pre- and post-conferencing before and after mentoring lessons, something that teacher felt would make the mentoring most useful.

A final challenge in the work of the CTP partners is the coordination of their work together. The evaluation data session on April 7th focused on the lack of coherence between the work of EM, USI and the Office of Math and Science. The continuing challenge in 2005-06 will be to promote coherence in the work of the partners.

The ongoing work of the CTP, as the project moves into a new grant year in 2005-06, will be to focus more directly on reaching and measuring progress toward the grant goals of improving student achievement, improving the quality of math instruction and developing local leadership. CTP partners in 2004-05 have focused on the prerequisite goals of creating high quality professional development that will *lead* to these outcomes. Similarly, the external evaluation of the project has focused on the quality, format and content of these professional development opportunities, understanding that this is necessary to lead to improvements in instruction in mathematics, student achievement, and strong leaders. The next step in the work of the partnership will need to focus on stretching these understandings of what is to be done into supporting more directly instruction and student achievement in context. The observations of participants in each of the three strands that they have a need for on-site support to translate what they are learning in the workshop into changes in their classroom is a reminder to push toward this goal.

Designing professional development that helps to make more direct connections to classroom practice is one component of this process of moving toward the CTP goals. Designing and focusing the math content in the NTN math strand is another. Creating evaluation that focuses on the outcomes of student achievement, the quality of instruction and the effectiveness of leaders is another important aspect of this. As our work together moves into a second year, there are indications that we will begin to make these important shifts.

While this need to shift focus toward reaching and measuring CTP goals more directly identifies a critical weakness in the first year of the 2004-05 grant year, partner ability to focus on this is testimony to the impressive growth that this partnership has undergone over the past year. What began as a formal work-scope around a contract is becoming a more dynamic partnership. Partners have applied for other grants to extend their work; they have submitted proposals to a professional conference together; they have met informally to brainstorm possible solutions to program challenges; they are working together to think through aspects of the district math and science initiative. Partners are in the process of building deeper relationships with more honest, productive approaches to identifying and solving problems.

Thus, as the 2004-05 grant ends, the partners of the CTP are already focused on moving forward into 2005-06. With lessons learned, there are hopeful signs that this will continue to be a project devoted to pursuing the challenging goals of improving classroom instruction, leadership and student achievement in mathematics in Chicago Public Schools.

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