

**Interim Evaluation Report:**  
*CMSI Elementary School Instructional Area Math/Science Coaches*

A report to the  
Chicago Public Schools  
Office of Mathematics and Science

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**Abstract**

In this report, we focus on the Chicago Public Schools' (CPS) Elementary School Instructional Area Math/Science Coaches. Beginning in 2003, the work of these Coaches was one aspect of a new Chicago Math Science Initiative (CMSI). In particular we report on the hiring and training of Coaches in spring and summer 2003 and the first semester of Coaches' work in elementary schools. This interim evaluation describes the Coaches' qualifications upon hiring and then their early professional development and work during their first four months on the job. This report also considers the Coaches' challenges as they try to make sense of their role within the CMSI. In conclusion, we raise issues for future consideration as CPS continues this initiative.

## Introduction

Beginning September 2000, the Chicago Public Schools (CPS) district was awarded an \$11.8 million Urban Systemic Program grant with the proposed goal “to increase significantly K-12 student achievement in mathematics and science by noticeably improving the level of performance of the current science and mathematics teachers.” To meet this goal, four initiatives were devised: “(1) the K-4 Specialization in Mathematics and Science; (2) the Grades 5-8 Mathematics and Science Endorsement Program; (3) the Grades 9-12 High School Science and Mathematics Certification Courses; and (4) the Professional Development Networks” (NSF Award Abstract, 2003).

In response to a mid-point review by National Science Foundation (NSF) in the spring of 2002 significant changes were made in the Chicago Urban Systemic Program (CUSP). Three new CUSP initiatives emerged: (1) sequences of university-based teacher professional development courses that could lead to either a K-5 specialization in mathematics and science or to a grades 6-8 mathematics and science endorsement; (2) a “leadership academy” to serve as professional development for the new staff of the CPS Office of Mathematics and Science; and (3) the planning and implementation of a new CPS Chicago Math and Science Initiative.

At the same time, CPS changed its leadership structure for mathematics and science education. Prior to September 2002, the district supported mathematics and science through numerous projects with local schools and individual teachers independently pursuing various approaches and activities. No single CPS office coordinated mathematics and science education. In an attempt to create a coherent plan for math and science teaching and learning, in September 2002, CPS created a new department—The Office of Mathematics and Science (OMS)—led by a new cabinet-level Chief Officer. The OMS began to develop and carry out a new vision for the district via, what it called, the Chicago Math Science Initiative (CMSI). This new initiative included the revised CUSP initiatives. The CMSI had three key objectives aimed to enhance student engagement, learning, and achievement:

1. High quality classroom instruction in mathematics and science will occur and will be supported by
2. increased workforce capacity and competency in mathematics and science content knowledge and pedagogy through
3. sustainable mathematics and science infrastructure (at school-level, instructional area-level, and district-level) and coherent policy directives.

In this report, we focus on one of the key activities of the CMSI that cuts across these three objectives. In one of their first activities the CMSI defined, created and then filled new staff positions of *Area Math/Science Coach*. In spring 2003, 30 of these Coaches were hired—one for each of the Elementary School Instructional Areas and 2 for each of the 6 High School Instructional Areas.<sup>1</sup> In this report, we focus only on those 18 who work with elementary schools.

This report provides a descriptive overview of the background of the Elementary School Instructional Area Math/Science Coaches. Then it describes their early work experience and professional development that took place between July 2003 and November 2003. This report also considers the Coaches’ struggles as they try to make sense of their role within the CMSI. In conclusion, we raise issues for future consideration as CPS continues this initiative.

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<sup>1</sup> Chicago Public Schools has an area office school leadership model with 24 area offices. Eighteen offices work with elementary schools and 6 with high schools. They are geographically organized throughout the city and are “clustered” in groups of 3 elementary areas and one high school area that often share a common office location. The mission of the area offices is as follows:

- Deploy instructional officers whose sole mission is to improve instruction in the schools
- Increase interaction between schools and area offices by reducing the school to area office ratio
- Provide a better level of day-to-day operations service to the entire CPS community, including principals, teachers and parents (Area Instructional Offices Homepage, 2002).

## Evaluation methods

Data that provides the basis for this report includes Coach resumes, cover letters, and state certificates from their hiring process, written reflections by Coaches during their professional development, observations of their professional development sessions, and interviews with all but one of 18 Coaches. See Attachments A1 and A2 for the observation and interview protocols used. More specifically, 2003 data used for the analysis in this report includes the following seen in Table 1.

Table 1: Types and amount of data used for this report

Type of data	Amount of data	
From Coaches directly		
* Written reflections from professional development sessions	40 documents	from 3 summer sessions (13 - July 1, 15 - July 17, 12 - July 18)
* Interviews	for 17 Coaches	during September and October
From researchers		
* Observations from professional development sessions	from 12 sessions	July 1, 2, 7, 8, 10, 15, 16, 17 September 10, 26, October 8, 12
From documents		
* Resumes from hiring process	for 14 Coaches	
* Other documents from hiring process Including: cover letters, CPS generated notation of state certifications & endorsements	for 14 Coaches	
* Math/Science Coach Job Descriptions, May 2003, CMSI document	-	
* OMS agendas and presentations from professional development workshops	-	

Coaches received 13 full-day professional development sessions in July 2003 with additional weekly full-day sessions held after that. Therefore, during the intensive summer training, observations made by researchers covered 8 of the 13 days or more than one-half of the sessions.

Evaluation data were collected by the UIC CMSI Evaluation Project, external evaluators of the CMSI effort. The authors of this report with 3 of their colleagues collected these data with the voluntary and informed consent of the Coaches. All data were collected with the promise that the individual identity of Coaches providing the data would be held in confidence.

Evaluation of Area Math/Science Coaches was designed to be both formative for program planning and summative of outcomes. Some early findings have allowed the UIC CMSI Evaluation Project to dialogue with CPS OMS senior staff about formative issues. These formative evaluation findings are shared via weekly verbal discussions, written reports every 2 weeks and from periodic interactive sessions. For example, in verbal communication on July 11, 2003 (midway through the Coaches three-week professional development session), evaluators offered OMS the following assessments of the professional development underway for Coaches based on their observations:

- OMS staff facilitating the sessions appeared to be working hard to model good professional development. There were clear attempts to balance the need for open discussion and feedback with the need to present a great deal of information. While there were times when OMS staff offered sessions with mostly lecture format, for the most part the sessions were very interactive.

- Coaches liked having the opportunity to work as soon as possible with other staff from their Area offices. However, at this time, some had not yet had the chance to do this.
- The major concern of Coaches was that of role definition. Coaches wanted to know what their jobs would entail. They wanted to understand where they would find the “authority” to get schools to work with them. They saw the scope of their job as vast and were overwhelmed by it. They wanted OMS to set priorities for what they were expected to do.

On another occasion, at a September 10, 2003 meeting, evaluators worked directly with the Coaches. At that meeting, they shared evaluation findings from not only the Coaches’ summer professional development but also from that of the school Math and Science Specialists’ and the First Wave Teachers’ implementing CMSI curricula.<sup>2</sup> Evaluators then lead the Coaches in an interactive exercise around what could be learned from these findings and how this might help Coaches shape their future work.

In terms of the more summative evaluation, the following questions shaped this data collection and analysis:

- ❖ What are the qualifications of the hired coaches?
- ❖ What are their career path plans?
- ❖ What types of work are they doing?
- ❖ In what ways have they found support for their work in relation to their professional development?
- ❖ How do they view their roles and their potential for successfully supporting CMSI objectives?

### **Findings: Coach backgrounds and career plans**

In May 2003, the new position of Area Math/Science Coaches for Elementary School Instructional Areas was created and advertised. After we note how the jobs were officially described in CPS documents, we then offer a review of the characteristics of the candidates hired for these jobs and consider how the job fits within their larger career plans.

#### **Official CPS advertisement**

The official CPS description of the Coach positions provides an initial view of OMS expectations. The full document is in Attachment B. Here we provide a brief summary of the description. Coaches were sought to contribute to

the development, coordination, implementation, and on-going evaluation of the Chicago Math and Science Initiative (CMSI) supporting the Area Instructional Officer, Principals, Math or Science Specialists, Teacher Leaders, Teachers, and other Staff within an assigned area of the Chicago Public Schools.

The key functions of the job were described as:

- Developing Coherence and Aligning Resources
- Professional Development and Human Resource Management
- Using Data to Support Instructional Improvement
- Instructional Coaching
- Addressing the Needs of Special Populations
- Building Instructional Capacity

At the minimum, Coaches needed to have an appropriate Master’s degree and experience in teaching and professional development. The Coaches would have primary reporting relationship to the Area Instructional Officer and a secondary reporting relationship to the Office of Mathematics and Science and its Chicago Mathematics and Science Initiative.

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<sup>2</sup> School Specialists received 8 days of professional development in late July and First Wave teachers received from 3 to 5 days of professional development in August 2003. Specialists and First Wave Teachers work at Intensive Support Math or Science Elementary Schools that receive special support from OMS to implement selected standards-based curricula. One teacher per grade level was selected to be among the “first wave” of teachers implementing the curriculum. The other teachers at these schools were considered Second Wave Teachers.

The hiring process for Coaches was an involved and extensive operation including candidate formal application, a screening interview that included discussion of videotapes and written reflections, and a follow-up interview. OMS staff, AIOs, and independent readers made multiple assessments of each candidate using various rubrics. Area Instructional Officers (AIOs) then made their choices of their top selections. Coaches were placed according to AIO selections by OMS. The detailed description of this process is available in Feranchak (2003) which is Attachment C of this report.

### Professional backgrounds <sup>3</sup>

For this report, evaluators reviewed resumes and referred to later interviews to understand better Coaches' professional backgrounds. Table 2 summarizes their backgrounds. We note that those hiring the Coaches may have found out additional data about their backgrounds within the Coach interview process. From the data available in OMS Coaches' files from the hiring process and from comments made in Fall 2003 interviews, evaluators ascertained that the majority of hired Coaches met the education, certification, and teaching experience criterion, but only one met the professional development criterion set out in the CPS description of the job. However, it is interesting to note that few Coaches appeared to have much experience with CMSI selected curricula. It is also interesting that more Coaches appeared to have science endorsements than math endorsements.

Table 2: Credentials of Area Coaches: Evidence found in resumes and interviews with evaluators <sup>4</sup>

Credentials (* identifies minimum requirements noted in official job announcement)	Evidence that has credential	No evidence found
Degrees		
BA/BS in math, science or education	9	5
MA/MS in math, science, or education *	11	3
Work Experience		
3 years professional development *	1	13
5 years teaching experience *	11	3
Using one of CMSI curricula	2	12
School-level math or science leader or chair	4	10
Other administrative experience	5	9
Certification and Endorsements		
Illinois teaching certification *	12	2
Type 75 certification	5	9
National Board certification	1	13
Math endorsement	3	11
Science endorsement	8	6

### Career path

How does the job of Area Math/Science Coach fit within the career path of the new CMSI Coaches? Certainly, it is important to note that for most of them, the position was a first step out of direct teaching (N=7) and out of positions based at specific Chicago public schools (N=12). However, a few were already in non-classroom based administrative positions (N=6).<sup>5</sup>

<sup>3</sup> Based on data from 14 (of 18) Area Coaches who allowed evaluators to review their hiring files.

<sup>4</sup> Based on data from 14 (of 18) Area Coaches who allowed evaluators to review their hiring files.

<sup>5</sup> Based on data from 14 (of 18) Area Coaches who allowed evaluators to review their hiring files.

Of the 17 Coaches interviewed, eleven directly addressed how their new job fit within their overall idea of their future career path. All of these Coaches noted the appeal of working toward system-level improvement in schools and in conducting professional development. They also all spoke of their future work as helping them to learn new things about the CPS Instructional Areas and about the roles of other CPS leaders like school principals.

In interviews there was little talk about what Coaches wanted to do as next career steps—understandably given they were less than one year into this new position. However, a couple did mention that they might want to consider being principals or superintendents. Another four Coaches also spoke about the possibility that they would leave their job as Coach if:

- The position does not become more clearly defined to their satisfaction (2)
- Their work does not help improve CPS
- A better administrative position opens up.

### **Findings: The work of Coaches**

To address the types of work Coaches were doing, we draw primarily from data gathered through interviews and from observations of professional development meetings. We begin by describing the work of Coaches in terms of how they worked with schools, within their Instructional Area Offices, and with the Office of Math and Science.

#### **With schools**

Before we can talk about what work Coaches did with teachers and other staff at schools, the first step is to understand that **getting access** to these schools took considerable effort. Coaches covered Areas where they were responsible for a varied number of schools—from 22 to 46, with a mean of 31 (CPS School Directory, 2003). A number of strategies were used by Coaches to make meaningful contact with schools. These included Coaches' efforts at:

- Introducing themselves to schools via a letter from their AIOs
- Tagging along on school visits with another Coach from their Area or with the OMS Facilitator
- Participating in Walk Through visits<sup>6</sup>
- Phoning and/or e-mailing principals
- Speaking at Area-wide principal meetings
- Drawing on relationships developed in past years
- Making quick visits to schools to introduce themselves
- Holding Area-wide monthly meetings for a representative math/science person from each school
- Phoning and/or e-mailing Intensive Support School Specialists

Some Coaches also prioritized their work with schools so they first targeted their Area's lowest achieving schools.

Still, despite these efforts, access to schools was not automatic. For example, one Coach spoke about the frustration when principals did not return calls and e-mails. This Coach wanted to figure out how to more effectively communicate with principals who might not understand or respect the Coaches' role in potentially supporting the school. However, others also spoke about how receptive principals were when the Coach dropped by, even on unannounced visits.

During interviews, 12 Coaches provided evaluators with a sense of the **frequency of their visits** to schools and how many schools they had worked with to date. Interviews with Coaches took place between late

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<sup>6</sup> Walk Through visits were carried out by each Area. In these visits, a group of staff from the Area Office visited a school for several hours and made short observations (5 minutes or less) of the instruction underway in all classrooms. Then the Area Office staff discussed what they observed with the principal, school leadership team and sometimes individual teachers. The goal of these visits was described by one AIO as being a "tool for continuous school improvement" that could help schools "expand their own understandings of classroom practice in their buildings" (Gallo, 2003).

September and the end of October 2003. Six Coaches estimated the specific number of schools they had visited; this ranged from 5 schools to 24 schools. When we looked to see if this wide range might be a function of when the interview took place, we still found a big variation between coaches. For example, we interviewed several coaches over a 2-day period in late October and found this same range; from 5 to 20 schools visited. Other Coaches did not offer specific numbers of schools but provided us with a sense that they spent 2 or 3 days per week in schools. A few Coaches interviewed late September or early October reported they had visited a third or half of their schools and expected to see all by the end of October.

Coaches reported on what **type of work** they did with their schools. Almost all spoke about their role as meeting key school staff and describing the CMSI. Some described specifically other work they performed in the schools. This work included the following:

- Providing professional development workshops (11 Coaches reported this)
- Organizing teacher informational meetings (6 Coaches reported this)
- Assisting with setting up science laboratories (2 Coaches reported this)
- Modeling lessons/co-teaching with teachers
- Subbing so teachers could visit each other's classes to see new curricula and teaching models
- Writing grants
- Assisting in ordering calculators
- Training Intensive Support School First-Wave Teachers who missed summer training
- Working with Intensive Support School Specialist on how to assist a teacher in a non-threatening relationship

Providing professional development workshops was a major aspect of Coaches' work. Throughout the interview time of September through October 2003, Coaches reported covering the following topic areas in their workshops.

- Describing the new Chicago Math Science Initiative (5 Coaches reported this) with some addressing this in relation to SIPAAAs (annually required School Improvement Plans), implementation strategies, and materials used
- Discussion of standards-based, hands-on, collaborative instruction (2 Coaches reported this)
- Ways of connecting math to literacy
- How to use manipulatives in math
- Describing the new CMSI math/science curricula
- Describing Math Trailblazers curriculum across grade levels
- Managing and organizing classrooms
- How to use graphic organizers
- How to practice math computation via "math strengths" and one minute math drills
- "Investigative Math"
- Science Fair in relation to state goals, scientific method and hands-on science projects
- Extended response items on standardized tests
- Presentation of CMSI curriculum at an Intensive Support School: Working with First Wave Teachers to present to Second Wave Teachers

For all Coaches, the majority of their schools were those **broadly supported**, rather than the CMSI Intensive Support Math or Science Schools or the Readiness Schools. How these Broad Support Schools fit within efforts to scale up the CMSI to reach all schools was a source of effort and concern with Coaches. Two Coaches spoke about Broad Support schools that were not chosen as Readiness schools, but who, on their own, bought the recommended curricula and wanted the support afforded to Readiness schools. These schools hope to petition OMS to accept them as Readiness Schools this year. One Coach expressed a desire to see this change in status as the school has a real desire to participate fully in CMSI. The other expressed consternation with the school for thinking it should receive the support afforded to Readiness schools when it was not chosen for this standing and OMS could not possibly afford to take on any number of such requests without concern to the current and future budgetary expenses. A couple other Coaches also commented about some discomfort they felt about working with these Broad Support schools when they were not completely sure about how these schools would be supported in the longer term scale up of CMSI.

A few of the Coaches talked about the resistance to change they were finding with some schools, teachers and principals. One of the Coaches voiced that this was more prevalent in the Broad Support schools compared to the Readiness or Intensive Support Schools. This Coach felt that the key to this resistance rested with the Broad Support principals—without whose permission the teachers would not attempt significant changes. Another Coach noted the wide range of teachers within each school where some teachers were attempting to teach with standards-based curriculum but other teachers said clearly that they did not want anything to do with these new curricula. Still another Coach commented that even those principals who did not want to change things at their school now, would likely be more willing if they had money for materials, professional development support, and the commitment and follow through of long term support of changes.

Though most of their schools were not CMSI Readiness or Intensive Support Schools, most Coaches were still working with these schools. In terms of their work with **Readiness Schools**, six Coaches spoke of these schools positively noting their desire to work with Coaches and be part of the CMSI. Another Coach noted that a Readiness school went as far as purchasing all the curricula and petitioning OMS to, in effect, give them Intensive Support status. Others noted the difficulty of moving Readiness schools forward especially without having the new curricula, while using out-dated texts or texts like Saxon Math that seemed to run counter to standards-based inquiry, and at the same time trying to implement what was being taught in Readiness School's professional development. Others noted the difficulty of moving teachers beyond "traditional methods." A few Coaches were deeply concerned by the ease with which schools could withdraw from Readiness status especially as OMS was trying to send the message that CMSI was here to stay. Another mentioned that Readiness Schools found difficulty getting their required professional development scheduled at a time they could participate. Coaches also noted their own and the schools' confusion and frustration when they tried to get answers from OMS about scheduling satisfactory times.

In terms of Coaches' work with **Intensive Support Schools**, ten of the Coaches interviewed talked explicitly about working with these schools while three said that they were not working with them. Coaches spoke of how they initiated contact with Intensive Support School principals and Specialists when they were introducing themselves to schools in their Area. They also spoke of how Specialists or Principals phoned them when they had questions and needed assistance.

As we mentioned above, Coaches described several ways they worked with Intensive Support Schools. One described how she/he helped to train Intensive Support School First-Wave Teachers who missed summer training. Another worked with a School Specialist on how to assist a teacher in a non-threatening relationship. Another made a presentation about CMSI curriculum at an Intensive Support School and worked with First Wave Teachers to present the material to Second Wave Teachers. Two of the Coaches also noted that they specifically wanted to work with the Intensive Support Schools by using them as resources for the Readiness Schools in their Area.

### **With Instructional Area Office**

The primary reporting relationships of Coaches were with their Area Instructional Officers (AIOs); likewise, their work stations were within the Area offices. Areas typically had weekly or biweekly meetings. Accordingly, the work they did was greatly shaped by the expectations of their AIO who had concerns that go beyond math and science instruction.

We note the interesting physical organization we found when visiting Coaches at their Area Offices. In the 15 Area offices that we visited, none of the Coaches had a private office. In two Cluster Areas, three Math/Science Coaches shared an office with each other; in two other Cluster Areas, the Coaches shared a large office with Math/Science Coaches and other Area personnel in their Clusters. And in one Area Cluster, three adjacent rooms each contained the staff of an Area including the Math/Science Coach, the Reading Coach and other staff in addition to their AIO. While a few of the offices had cubicles to divide up work space, others were large open rooms with multiple desks around the perimeters.

Sharing these common offices got mixed reviews from Coaches. For example, one Coach noted that the office was too loud to work in, and it was difficult to carry on a phone conversation due to the noise. Yet another noted that office mates were very respectful of each other and that they had no problems. Due to the structure of their offices, some Area Teams were in constant conversation with each other and/or their AIO. One Coach noted that the Area had scheduled meetings twice a week but frequently they met 2-3 times per day to discuss work since they were all there together. Another Coach sat directly shoulder to shoulder with the Area Reading Coach and though the space was too tight, the “up side of it is that people are communicating.”

Twelve of the Coaches shared positive assessments of their working relationships with their AIOs and their Area team members. None of the Coaches reported poor relationships with AIOs or Area team members though one noted that even though they shared an office they did not know each other very well. Another reported some friction as team members had to cover for each other when someone took vacation. Still, relationships were predominantly positive.

Coaches reported that they did a variety of Area-focused activities during their first months on the job. Almost all Coaches talked about assisting with Area Principal Meetings and School Walk Throughs. Coaches also spoke of their engagement with the Area Science Fairs and with a few other activities like speaking at meetings for assistant principals, attending central office meetings on behalf of the AIO or arranging after school programs. Several of the Coaches noted that this meant that they needed to spend typically about one day a week at their Area Office working on “Area stuff.”

For example, Walk Throughs took up a great deal of time during Fall 2003 with a second round of Walk Throughs expected in 2004. Coaches described how the Area conducted Walk Throughs in from one to 6 schools per week with this requiring from one to three days per week of their work time. The engagement of Coaches in these school visits varied with one Coach reporting in October that he/she had not yet been on a Walk Through and another noting her/his Walk Throughs started the first week of school.

### **With OMS**

While Coaches’ reporting responsibility to OMS is secondary to their responsibility to their Area, the relationship was clearly a big part of their work life. Every week since the start of the school year, they spent one full day in meetings that were facilitated by OMS staff and typically by the Chief Officer of OMS. The meetings were with the other Elementary School Instructional Area Math/Science Coaches and sometimes with High School Area Math/Science Coaches, OMS Facilitators and other staff, and Intensive Support School specialists.

Coaches’ assessment of the support they received from OMS staff varied, but only 5 of the Coaches made specific comments. In terms of positive support they received, these Coaches appreciated the staff who promptly answered e-mails, who offered to share equipment, or who “always seem extremely available. Throw them an e-mail and they always get back to you whenever you ask them whatever.” However, other Coaches commented on the occasions when they had difficulty getting answers to questions.

The Coaches expressed varying degrees of comfort with the manner that they shared the work of supporting Intensive Support Schools with the OMS Facilitators assigned to these schools. Of the 13 Coaches who spoke specifically about their work with Facilitators, four commented that they had positive collaborations with some of the Facilitators but negative experiences with others. Two Coaches spoke only of positive collaborations with Facilitators while seven spoke only of negative experiences or the lack of collaboration. We elaborate on this relationship in more detail in a later section.

### **Findings: Professional development**

What did the professional development provided to Coaches by OMS cover and how did the Coaches assess the usefulness of these sessions? We review data from both our observations of the summer 2003 Leadership Academy for Coaches and our interviews with Coaches.

## Summer workshops

Most of the Coaches (except for 3 late hires) spent their first days on their new jobs engaged in 13 days of workshops: the Coach “Leadership Academy.” Based on the 8 sessions evaluators observed plus OMS documentation of these 13 sessions via agendas and PowerPoint presentations, we describe the topics covered in these sessions. Next we discuss the quality of the sessions in terms of standards of good professional development and the Coaches’ assessments of these sessions.

The Office of Math and Science staff planned and facilitated the July 1 through July 18 workshops for Coaches. They outlined their **goals** below (from a PowerPoint presentation used at the June 20, 2003 OMS Staff Meeting) for these workshops:

### *Goals for Coach Leadership Academy*

- A. Establishing the coaches as a working group and as part of CPS math/science leadership team
- B. Developing the leadership skills of coaches
- C. Preparing coaches to be the operational arm of the CMSI in Instructional Areas
  - Knowledge of CMSI components and approaches
  - Understanding of vision for teaching and learning math and science that underlies CMSI; examination of student learning
  - Understanding of instructional materials that are part of K-8 Intensive Support component.

How did the **content of the sessions** match up to these goals? Table 3 describes the Coach Leadership Academy in terms of the three main goals and more specific themes that were explicitly covered during the Academy. It is important to note the curriculum of the 13 sessions was more nuanced than this Table suggests. Many of these topics were touched on in more sessions than indicated, however, in indirect ways or for less than 10 minute periods.

Table 3: Major topics covered in July 2003 Coach Leadership Academy

Major topics covered	Full-day workshop sessions offered												
	*	*	*	*	*	*	*	*	*	*	*	*	*
	7/1	7/2	7/3	7/7	7/8	7/9	7/10	7/11	7/14	7/15	7/16	7/17	7/18
<i>Goal A.</i>													
Community building	X				X						X		
<i>Goal B.</i>													
Leadership	X			X	X	X	X			X	X	X	X
<i>Goal C.</i>													
<i>Operations of CMSI</i>													
Role of the Coach		X		X						X		X	
CPS context		X		X	X		X				X	X	
Strategic planning				X				X			X		
Standards-based instruction		X	X	X	X		X		X	X	X		
Lesson Lab							X	X				X	
Using data		X		X							X		
Using technology						X							
Science fair											X		

\* Denotes that evaluators observed this session and reported the topics covered.

Goal A, helping the Coaches grow as a **professional community** that could depend on each other, was addressed in some explicit discussions during the sessions. However, this goal was dealt with in more subtle ways as the Coaches were brought together day-after-day, week-after-week in interactive sessions. In their written evaluations of the summer session, Coaches were positive about how the sessions helped them connect with the other Coaches. When asked directly about the formation of relationships among Coaches on the second to last day of the Academy, thirteen of the Coaches wrote specifically about forming a strong professional community. In the following day's written evaluation, when Coaches were asked "What was the most important thing that happened during this course/workshops?" seven Coaches talked about the development of relationships with other Coaches.

Certainly one could make the case that Goal B on **leadership** was a theme of every session in an indirect way. However, we point out 9 days (70% of the days in the Leadership Academy) when a major chunk of time was spent explicitly covering the types of leadership the Coaches were being asked to exhibit. Time on leadership issues included discussion of how to best lead high quality professional development workshops and experiences. It also included time spent on skills needed for coaching and on how to foster discussion and, for example, deal with racial conflict.

One of the objectives for the summer workshops was to model a high quality professional development process. Research suggests that high quality professional development:

1. encourages reflection on practice,
2. provides the opportunity to apply new ideas,
3. actively involves participants,
4. promotes discussion of challenging intellectual ideas,
5. engages participants as sources of expertise, and
6. presents participants with feedback on their practice (Smylie et al, 2001).

This understanding of high quality professional development was built into the data collection for this project. Evaluators' observation protocol aimed to tap the extent to which the sessions exhibited evidence of high quality professional development. In addition, at several time points during the Academy we asked participants to analyze the strengths and weaknesses of the sessions. We also encouraged participant reflections on the sessions in individual interviews. We examine our defined characteristics of high quality professional development and analyze relevant data from observations, participant written reflections, and interviews to get a sense of the extent to which these traits were evident. (A parallel analysis of the OMS staff Leadership Academy provides additional discussion of this framework (see Hallman et al., 2003)).

Were these Leadership Academy sessions conducted in ways consistent with norms of high quality professional development? The eight observed days of the summer 2003 Coach Leadership Academy were characterized by all six solid professional development practices we looked for in the workshops. Each observed day had all six of these characteristics with the exception of one day when we did not see discourse around challenging ideas and another day when there were no time when participants got any feedback on their work and thoughts. In interviews and in their written reflections at the end of the Academy, Coaches confirmed the high quality of these sessions and noted that they learned something about how to conduct good professional development. In their written reflections, Coaches most notably confirmed that they had gained tremendously from the leadership training (10 Coaches described various aspects of this).

Most of the other themes seen throughout our analysis of observations and documents from the sessions are related to Goal C, the specific **work and operations** that the Coaches were preparing to do. There was specific talk about the state of math and science education in CPS schools, the types of standards-based instruction being promoted, the use of data, Lesson Lab, and technology in their work, and working on science fair issues. The work on standards-based curriculum was not comprehensive in terms of in-depth training on the CMSI selected curricula, though a few of these curricula (i.e., Math Trailblazers and FOSS) were presented in some detail (presentations of at least an hour). In addition to this, OMS provided time for Coaches to do some collaborative strategic planning together to prepare for their work during the school year. In written reflections at the end of the summer sessions, Coaches confirmed that some of these themes were covered and described how some contributed to their sense that they could now work to help

implement CMSI. Four Coaches specifically commented that they found the discussion of the role of coaches helpful. Another four appreciated the training they got in using their laptop computers and Lesson Lab.

A few Coaches also commented in their written evaluations at the end of the summer sessions about ways the sessions could have been more beneficial. One noted they would have liked to have more time to deal with their responsibilities to their Area Offices during these first 3 weeks of July. Another Coach noted that more time for individual reflection by the Coaches, prior to sharing of ideas with the group, would have been helpful. And still another would have appreciated hearing more from those Coaches who previously held a position as Math/Science Coach.

Despite positive benefits of the summer session, Coaches also expressed in their written evaluations that they had various **concerns as they moved on** from their own professional development and into their final summer month and then the school year. These concerns centered around two issues: their work role and responsibilities and the skills they needed to do their jobs. In terms of their work roles:

- A couple Coaches were concerned about how to balance their AIO's expectations with those of OMS.
- A couple Coaches were concerned about how they could be effective in working with a large number of schools given a limited amount of time.
- One wrote that they were concerned that they did not get a very detailed explanation of their responsibilities.
- One was concerned about how to establish credibility with schools.

In terms of the skills they needed:

- One wrote that he/she was not sure all of the Coaches understood standards-based inquiry.
- One wanted additional content training in math or science.
- Three wanted more training in how to use technology like PowerPoint.
- Two wanted more training in CMSI curricula.
- One wanted more training in Cognitive Coaching.

### **Curriculum-specific professional development in Summer 2003**

While not required to attend, Elementary School Instructional Area Math/Science Coaches were encouraged by OMS to attend some of the curriculum-specific professional development offered to Intensive Support School First Wave teachers during late July and August 2003. A number of Coaches did attend, but others did not. According to our interview data and observations of these professional development workshops, approximately 11 Coaches attended some aspect of the curricula training sessions.<sup>7</sup> Some remarked that they wished more of these trainings would have been geared to an overview of the curricula across the grade levels so that they would have had a better grasp of what each curriculum entailed to better help more teachers. Others expressed their hope that the curricula would be presented to Coaches at the weekly Coach meetings as part of their on-going professional development.

### **Findings: Making sense of an evolving leadership role**

At the time of this report, the Coaches have had about 4 months to work in these newly created positions. Given the complexity of the objectives of the CMSI, of their described role, and their dual reporting arrangement (to OMS and to their AIO), it was little surprise that their understanding of the job and their leadership role was evolving and at times frustrating.

Coaches wanted more clarity and did not have a good understanding of what they were supposed to accomplish. One explained there must be a plan in somebody's head about what the Coaches' job was but this plan was not clear to the Coaches. Another noted that it was hard to know if their work was moving

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<sup>7</sup> CPS attendance data from these curriculum-specific sessions in August 2003 does not include the Coaches who attended.

along as it should without understanding what the plan was. Another noted specifically that they really wanted the OMS Chief Officer to be very clear—to “say it aloud” and explain the role of Coach.

However, many of the Coaches spoke about the ways they were dealing with the ambiguity, if not quite making peace with the uncertainty. Two of the Coaches noted that by the time they interviewed in Fall 2003, they were “okay” with the uncertainty in their role. However, these two and at least four of the other Coaches found this lack of clarity very bothersome during their first month on the job. Three of the Coaches told evaluators that they felt that they spent too much time discussing their role and responsibilities at meetings. Three Coaches explained that they figured that by the end of the year, they would have a more accurate description of what their job entailed. One of them noted that their AIO’s expectations were a major shaper of the role. One Coach felt the role was being collectively defined as the CMSI programs unfolded. Two of the Coaches were pleased with the ambiguity because it afforded them the opportunity to make the job what they wanted.

As a group, the Coaches worked to collectively negotiate their role within CMSI during weekly meetings that began at the start of the school year. We find that these weekly meetings have been a great outlet for Coaches to raise their immediate questions and concerns. We also have seen in these weekly meetings evidence of Coaches trying to fulfill the goals set forth by OMS. In the following section we describe these meetings and then discuss in more detail some of evidence on how Coaches evolved in their understanding and attainment of CMSI goals.

### Continuing weekly meetings

The professional development support that OMS provided to Coaches continued after the summer with weekly full-time meetings for all Coaches, typically on Fridays. Evaluators attended 3 of these meetings and collected documents from a fourth. (We do not have official CPS attendance records for these meetings but our observations noted the absence of typically 1-4 Coaches from each meeting.) The topics covered in these sessions are summarized in Table 4.

Table 4: Major topics covered in a sample of Fall 2003 Coach continuing weekly meetings

Major topics covered	Full-day workshop sessions offered			
	* 9/10	9/19	* 9/26	* 10/8
<i>Goal A.</i>				
Community building				
<i>Goal B.</i>				
Leadership				X
<i>Goal C. Operations of CMSI</i>				
Role of the Coach	X	X	X	X
CPS context				
Strategic planning	X			
Standards-based instruction		X		
Lesson Lab	X			X
Using data	X	X		
Using technology				
Science fair			X	

\* Denotes that evaluators observed this session and reported the topics covered.

Here we refer back to the goals for the summer professional development and the themes covered in those sessions: We find that the focus of Coach meetings in Fall 2003 was not explicitly on building community nor leadership but focused most intently on the role of Coach and the immediate needs of Coaches as they began to implement their role within their Area. However, as we next describe, the Coaches views on their relationships with others in their professional community and on their own leadership were in a dynamic phase during September and October 2003. We describe this and then turn to their views on their role and the operations of CMSI.

### **Community building**

Developing a positive professional community with the other Elementary School Area Math/Science Coaches was a key theme discussed by Coaches. In interviews, eleven of the Coaches clearly noted the value they found in working with these colleagues. They noted that they found their colleagues “supportive” and that they “worked well together.” They noted that they were “glad to have had the opportunity to bond in the summer session” and that now they shared insights through e-mail and called each other when needed. One Coach was very expressive about the positive relationships noting that a couple of his/her Coach colleagues were “phenomenal” and that they shared a great deal of information with each other so that “at times I want to cry with joy because they are so supportive of you.”

In terms of their work with Intensive Support Schools, Coaches were dealing with their relationships with OMS Math and Science Facilitators. Relationships between Coaches and OMS Facilitators had started to move through the stages of “forming, storming, and norming.” In professional development sessions with the Coaches (and in earlier Leadership Academy sessions with the OMS staff), CPS Office of Professional Development Chief Officer Al Bertani talked about how the development of professional communities needed to go through the stages of “forming, storming, and norming.” Relationships need time to form. Typically, there are also times when disagreements characterize the community as people negotiate their work together. Then the parties to the community have to grow to understand their shared or normative values and common expectations for each other. In our interviews with Coaches we have heard mixed reviews on their relationships with Facilitators—both positive and negative from a number of Coaches. In their comments we see evidence of the forming and storming that may be leading to the norming stages.

Some Coaches worked with some Facilitators. Six of the Coaches noted that they had worked with about half of the Facilitators in their Area stressing the support they had received from these Facilitators and the united front that working together presented to schools about CMSI. Three Coaches noted how particular facilitators went out of their way to collaborate and support them. The relationships they were forming were positive.

As Coaches started to work to support the needs of Intensive Support Schools, tensions erupted. Five of these same Coaches (who had positive things to say about some Facilitators) and six other Coaches expressed their dismay that other Facilitators from their Area were what a few Coaches described as “MIA—Missing in Action.” Some Coaches tried to excuse these Facilitators by noting that each was still trying to adjust to the job, but the frustration, however subtle, remained. For example, one Coach contacted four Facilitators by e-mail to see if they could collaborate on their shared schools and heard back from only two of the four. The Coach reported that the message from these two responding Facilitators was basically, “I don’t know yet. I don’t have any schedules. Thanks, I’ll keep in contact.” This left the Coach thinking: “Okay, I don’t really either, but we have to move on this...we can’t let a whole month go by and not have interactions with these Intensive Support Schools.” In this same vein, three Coaches described a complete lack of relationship with the OMS Facilitators for their schools. In addition, three Coaches noted the predicament this tenuous relationship has on Intensive Support Schools and Coaches, especially in situations where the schools established a relationship with the Coach but not with the Facilitator. One of these Coaches described a situation where a Facilitator was not responding to an Intensive Support School that was trying to contact it. This lack of communication led to finding out five weeks later that CMSI curriculum materials were never ordered for the school. Referring to this “storming” part of the Coach/Facilitator relationship, one Coach feared that Coaches and Facilitators were losing the ground they

had gained in the “forming” stage of summer. The Coach noted that they rarely saw Facilitators and believed that they had to strive to broaden the relationship by finding time to meet with them.

When we look at these findings in light of the goals of supporting the AIOs, Principals, Math or Science Specialists, Teacher Leaders and other staff within the Area, we can see Coaches at different stages of developing relationships with these different parties. In regard to the relationships that Coaches have formed with each other, by their early weeks on the job they had already established themselves as a working group of math/science leaders among themselves. On the other hand Coaches were still grappling to solidify their relationships with OMS Facilitators in such a way as to provide a united front that supports the team approach as they continue on the path of norming. Likewise, they were still working to build relationships with some leaders within their Areas (particularly resistant principals).

## **Leadership**

How did Coaches view themselves in terms of the leadership they provided to the CMSI? In interviews with evaluators, ten Coaches spoke of their “leadership.” They described their role as leaders in different ways. Some considered themselves as continuing in leadership roles—they had been leaders in improving math and science education before they became Coaches; this was just a new variation of that previous role. Others noted they felt a change in their role—now they were in a leadership position rather than being a classroom teacher. A couple clarified that “leader” was not quite the right word for what they were now doing. Rather they preferred to describe themselves as a “facilitator” or as a “leader among equals.” Two Coaches made a point that there was a barrier to their ability to feel like a district leader of science and math education. They explained that they did not see themselves as leaders of the CMSI because of OMS’s “lack of clarity” in terms of their strategic planning or because they were not sure what the CMSI “was leading towards.” These barriers to leadership had little to do with one’s leadership skill and more to do with the absence or lack of understanding of a vision. It seems a clearer, driving vision was what these Coaches looked for as they began their work. We have more to say about a clear, more coherent vision shortly.

## **Operations of CMSI**

As we look across time particularly at the conversations observed in Fall 2003 weekly Coach meetings, we find evidence that Coaches’ work has become more centered on *developing coherence and aligning resources* at the same time as it was focusing on *professional development and human resource management*—two of the major functions of their work as defined by their job description. We describe an example of the development in these areas.

Right from the start of the 2003-2004 school year, Coaches were going out to schools to conduct professional development for teachers about CMSI. Some even spoke to the teachers in the very first in-service professional development days. Coaches were excited by this professional development provider aspect of their job and a couple of them created PowerPoint presentations for these workshops and shared them with other Coaches via the Coach e-mail listserv. However, in the course of their weekly meetings, Coaches then began to question whether they were providing “hit or miss” professional development without a systematic, coherent plan. This became the topic of discussions at meetings in early September and then continued to be discussed via e-mail between Coaches and the OMS Chief Officer.

Tensions surfaced in the course of this dialogue. In late September, two of the Coaches explained their frustration with the OMS Chief Officer for what they termed his “shutting down the discussion and sharing of professional development.” Yet the dialogue continued at one of their next Coach meetings and the disagreements came to a head. When all was said and done, the Coaches felt they came out of this dialogue with a clearer understanding of the OMS Chief Officer’s view of a coherent professional development plan. Almost without exception in our October interviews, Coaches described a great change in their weekly meetings. Some of them described the meetings as becoming better or more useful “now that we [the Coaches] are driving the agenda.”

In our mid to late October observations, we found Coaches working with one another on their assigned professional development PowerPoint presentation and heard evidence of them presenting these to each other for feedback. As these PowerPoint presentations become finished products, they will become resources for all of the Coaches to share. It is our understanding that these presentations are being presented at the Area Level via the AIO's principals' meetings and via the structures some Coaches have created working with a contact person per school within the Area. With this as our evidence, we believe that CMSI through the work of Coaches are beginning to create the framework needed to develop coherence and align resources particularly in this area of professional development and human resource management.

In terms of building instructional capacity within their Areas, Coaches have shared how they are attempting to do this through their work within their schools and Areas. In addition, we noted a few other examples of Coaches working to develop instructional coaching (i.e. a few Coaches spoke of modeling lessons with teachers). These examples from the early months of the school year, while not universal among Coaches, exhibit a tendency to work towards the OMS Goals of providing instructional coaching and building instructional capacity.

Yet at this stage, the evidence we have allows us to make few general conclusions about their work as a collective in this realm. However, one example stands out. From our conversations with Coaches, we learned that a number of them have tried to devise a framework, similar to the Reading Initiative model, to provide time for professional development and planning within the Area via a format of a math/science monthly team meeting where the team consists of the Coach and a representative from each of the schools. In our opinion this seems like an initiative worthy of OMS/Area support as it builds on a known framework and incorporates building and modeling of team work as it pushes the CMSI agenda forward. However, we are unclear whether this structure is being utilized by all Coaches and/or the degree of support that OMS or Areas have provided Coaches in this endeavor. In fact, one Coach mentioned that an OMS Facilitator told a Specialist he/she wasn't required to attend these meetings. Another coach described cajoling principals to give up one person a month noting that it would only end up being 6-7 days this year.

Developing coherence and aligning resources, providing professional development and human resource management, and building instructional capacity are but 3 of 6 job functions outlined for the Area Coaches. The evidence is much more sparse at this stage in terms of how Coaches are shaping their collective role in using data to support instructional improvement, providing instructional coaching, and addressing the needs of special populations. In many ways this makes sense given that the first three goals are more about laying a foundation for the other goals.

## **Discussion**

Based on our interim findings, we reflect on a few issues related both to evaluators' future attempts to document the Chicago Math Science Initiative and the work of Math/Science Coaches and to the Office of Mathematics and Science's strategic planning of the next steps of the CMSI.

Rather than trying to comment further in our findings sections on these job functions, we focus discussion around those aspects of the Coaches' job that they talked the most about, those that they noted were most pressing to them, those that they considered their biggest challenges. Looking at these issues, we see a key theme arising around Coaches desire to have a more clear understanding of the longer term vision for CMSI and to make sure that they enact this vision with the full support of OMS.

### **Toward a clear coherent vision for CMSI across Areas**

To this effect, we highlight several opportunities where, according to Coaches and in our judgment, efforts can be made to improve the alignment and coherence of activities. These opportunities include the need for stronger messages in support of CMSI, answers to questions about future CMSI goals, and some specific tangible tools and structures to help Coaches carry out their work.

Coaches would like to hear from CPS top leadership, its Chief Executive Officer and Chief Instructional Officer, that mathematics and science are top priorities of the system. They would like to hear that, in

addition to holding schools' accountable for improving literacy, schools will also be accountable for improving math and science achievement among all students. Coaches would like schools to hear more messages that would convince them that CMSI is "hear to stay." Instead, Coaches have felt the message to schools has been mixed, when for example, a couple schools withdrew as Readiness Schools and Coaches perceived that OMS readily accept this situation—in a way that they thought showed a "wavering" support of CMSI by OMS.

Coaches would like answers to a number of questions about the long term goals of CMSI. These questions include:

- What is the longer-term plan for current broad support schools? What will happen in these schools if CMSI is successful?
- According to CMSI plans, how should Coaches work with Intensive Support Schools? Is their role to support Math Intensive Support Schools with help in the sciences and Science Intensive Support Schools with help in math? Or is there a different manner by which Coaches and OMS Facilitators collaboratively support these schools?
- What is the plan in terms of how Coaches use CMSI selected curricula in their work with schools? Are they to encourage the use of standards-based curriculum exclusively? How much expertise should they have in the CMSI selected curricula?
- By what standards/objectives will the work of Coaches be assessed by their supervisors? What is the accountability system now and what will be the outcome of this at the end of their 2003-2004 school year?

In terms of specific tools and supports, Coaches suggested the following. Each Area has a distinct way of doing things—particular to the people who work in that Area and the populations they serve. Yet, within these differences there is opportunity to support coherent frameworks/structures and attempts by coaches to bring this about.

- Create and implement a consistent framework for Walk Throughs. Coaches have asked that coherence extend to their work within the Area as they represent OMS through the Area Walk Throughs. In a number of our conversations with Coaches and in their weekly meetings we have heard the call for a consistent framework by which to view math and science during the Walk Through process.
- Develop and utilize a template for the monthly reports to the AIO. Again, this is another area where Coaches have asked for consistency across the system to be in keeping with each other and with Reading Coaches.
- Provide time for AIOs and OMS to collaborate jointly with Coaches around their work. Coaches have expressed a desire to have occasional meetings with both their AIO and the OMS Chief Officer as they see a similar structure in place for Reading Coaches to meet with AIOs and the Chicago Reading Initiative.
- Develop and deepen their work with OMS Facilitators, OMS Staff, and Math/Science Specialists as a way of providing a united front, greater coherence, and ultimately greater strength for building instructional capacity in math and science education.

### **Future evaluation**

In terms of continued documentation of the work of Math/Science Coaches, we plan to continue to observe periodic Coach meetings throughout 2003-2004 and in future years to monitor how the work of Coaches continues to align with OMS goals for the position. In addition, we hope to see how Coach work with both the Office of Math and Science and the Area Instructional Office impacts schools. We also will be looking for further alliance between the Area Office and the Office for Math and Science.

In a parallel strand, we will continue our observations of OMS staff and their continued Leadership Academy meetings. We will interview OMS staff in Spring 2004. Through these observations and interviews, we intend to monitor the continuing development of their learning community, with particular emphasis on what we hope to see as the "norming" of relationships among themselves and between OMS Facilitators and Area Elementary Math/Science Coaches.

We also note that a great deal of information was shared by Coaches that will greatly contribute to another strand of the evaluation research currently underway on schools' implementation of CMSI curricula and practices. Coaches provided candid descriptions of some of the conditions at schools: Broad Support, Readiness, and Intensive Support. These comments about the schools, their teachers and principals will be used in the analysis that will be reported in the forthcoming August 2004 report on the CMSI elementary school implementation.

We are grateful to all of the Coaches and OMS staff who so willingly allowed us to be part of the unfolding of this Initiative. We are encouraged by their desire to consistently work toward improving math and science instruction in CPS and see this Interim Report as an opportunity for each to reevaluate the overarching goals of CMSI and the structures, framework, and methods individuals and groups are using to bring it to fruition. We suggest that by working together toward enacting a clear and coherent vision, the CMSI goal can bear great fruit.

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## **Attachments**

**A1** Observation protocol for professional development sessions

**A2** Interview protocol for Area Math/Science Coaches

**B** Math/Science Coach Job Descriptions, May 2003, CMSI document

**C** Feranchak, Bret. (June 2003) Hiring of Area Mathematics and Science Coaches: Summary. CPS document for public sharing.

## **Attachment A1: Area Math/Science Coach Leadership Academy Observation Protocol**

### *Guidelines for Observation Fieldnotes of Daily Afternoon Seminar*

- A) On all notes and documents collected identify using the following information
  - 1) Observers name
  - 2) Date, time
  - 3) Place of observation
  - 4) Name of program: Area Math/Science Leadership Academy seminar
  - 5) Title the observation—you make up a title depending on what takes place
  - 6) File all notes and documents in folder labeled by day and archive
  
- B) Collect the following for the day:
  - 1) Agenda
  - 2) Name, title, contact information of facilitator(s)
  - 3) Lesson plan from facilitator
  - 4) Handouts
  - 5) Attendance
  
- C) Following the agenda,
  - 1) Track time spent on various components of the planned day
  - 2) Note activities not listed on agenda
  
- D) Take descriptive fieldnotes on seminar dialogue and activities
  
- E) Address the following specific points:
  - 1) Total time observed
  - 2) Time participants spent in various types of environments
    - a) Full group
    - b) Large groups of more than 8 and less than full group
    - c) Small groups of 8 or fewer
    - d) Individual work
    - e) Other
  
- F) Provide evidence as to the level the seminar fostered the following that day
  - 1) Time for reflection on practice --alone and together; written and verbal
  - 2) Time for applying/using new ideas
    - a) During seminar
    - b) In co-teaching
  - 3) Active participation through attendance, discussion, writing, activities
  - 4) Discourse around challenging intellectual ideas
    - a) Ideas have relevance to participants' work
    - b) Participants movement from new ideas to constructing original solutions to problems
    - c) Participants communicate their understanding and engagement
    - d) Participants prior ideas/assumptions are challenged and reflected upon in light of new challenging ideas
  - 5) Participants are engaged as sources of knowledge and experience
  - 6) Participants receive constructive feedback on their work related to the Academy
  
- G) Provide evidence as to the level the group of participants expressed that day
  - 1) A deeper understanding of the aspects of good instruction in mathematics and science
  - 2) A stronger sense of belonging to a learning community with other Leadership Academy participants

- 3) An emergent view of what good mathematics and science instruction in Chicago can be--fostered by the new CPS Mathematics and Science Initiative that they are planning
- 4) A more detailed understanding of the processes by which good instruction can be promoted in Chicago
- 5) A more clear sense of their personal role in promoting good instruction in Chicago
- 6) Enhanced ability to successfully carry out the new CPS Mathematics and Science Initiative

Name of program: **Area Math/Science Leadership Academy seminar**

Title the observation \_\_\_\_\_

Observer's name \_\_\_\_\_

Date, scheduled start time \_\_\_\_\_

Place of observation \_\_\_\_\_

**Collected and Attached**

- Agenda
- Name, title, contact information of facilitator(s)
- Lesson plan from facilitator
- Handouts
- Attendance

TIME	TOPIC/AGENDA	DESCRIPTION	TYPE GROUP

Title the observation \_\_\_\_\_

Date \_\_\_\_\_

TIME	TOPIC/AGENDA	DESCRIPTION	TYPE GROUP

Title the observation \_\_\_\_\_

Date \_\_\_\_\_

*Provide evidence as to the level the seminar fostered the following that day*

- 1) Time for reflection on practice --alone and together; written and verbal
  
- 2) Time for applying/using new ideas
  - a) During seminar
  - b) In co-teaching
  
- 3) Active participation through attendance, discussion, writing, activities
  
- 4) Discourse around challenging intellectual ideas
  - a) Ideas have relevance to participants' work
  - b) Participants movement from new ideas to constructing original solutions to problems
  - c) Participants communicate their understanding and engagement
  - d) Participants prior ideas/assumptions are challenged and reflected upon in light of new challenging ideas
  
- 5) Participants are engaged as sources of knowledge and experience
  
- 6) Participants receive constructive feedback on their work related to the Academy

Title the observation \_\_\_\_\_

Date \_\_\_\_\_

*Provide evidence as to the level the group of participants expressed that day*

- 1) A deeper understanding of the aspects of good instruction in mathematics and science
  
- 2) A stronger sense of belonging to a learning community with other Leadership Academy participants
  
- 3) An emergent view of what good mathematics and science instruction in Chicago can be--fostered by the new CPS Mathematics and Science Initiative that they are planning
  
- 4) A more detailed understanding of the processes by which good instruction can be promoted in Chicago
  
- 5) A more clear sense of their personal role in promoting good instruction in Chicago
  
- 6) Enhanced ability to successfully carry out the new CPS Mathematics and Science Initiative

## Attachment A2: Area Math/Science Coach Interview Protocol, Fall 2003

### AREA MATH/SCIENCE COACH INTERVIEW UIC CMSI Evaluation Year 2, 2003 – 2004 Interview One

1. Tell me about your work as a Coach helping schools in CMSI—both in terms of the successes you are finding and the challenges you are facing.
  - a. What is a typical week like for you?
    - i. How often at the schools?
    - ii. What activities do you help plan/ participate in at the schools?
    - iii. What activities do you participate in when NOT in schools?
  - b. With whom do you engage at the school, area, and district?
  - Probe on who initiates communication/ work together.
    - i. Area Instructional Officers
    - ii. Other members of the Area instructional team
    - iii. OMS facilitators
    - iv. Other OMS staff
    - v. Teachers
    - vi. Principals
    - vii. People in Intense schools: Specialists, First Wave teachers
    - viii. People in Readiness schools: TAMS staff, etc.
    - ix. Others
2. Tell me about your schools.
  - a. Tell me about the specific curricula your schools are using?
    - i. Which curricula?
    - ii. Successes with these?
    - iii. Challenges with these?
  - b. Tell me about what supports and challenges you are finding in terms of how the schools are set up in terms of:
    - i. Leadership (both teacher leaders and principal leadership for math/science)
    - ii. Communication structures (i.e. Shared meeting time)
    - iii. Collaboration
  - c. Share with me your assessment of if and how any CMSI related changes to your schools math and science education are:
    - i. broad
    - ii. deep
    - iii. lasting
  - For all these, probe on how does this vary for different schools in your group.
  - What is your estimate of the rate of change at your schools?
  - Ask about general changes but also implementation of specific curriculum
3. Tell me about how you have been supported in your work.
  - a. You participated in many workshops with the coach training, then specialist training, then first wave teacher training.
  - b. Tell me about your interactions with these groups of people during the meetings and outside of the meetings. Did these meetings change your relationships with them? How?
  - c. At this time as you think about your current work, how did the professional development meetings in the summer 2003 influenced your work? Give me a specific example(s) and tell me how the meetings influenced this.
  - d. What about support you got in August September after the workshops?
  - e. What about ongoing work with OMS staff?
  - f. Other support from Area, etc?
  - g. How do you feel about how defined/ not defined your role as coach is at this time.
4. Do you view yourself as a leader of math and science within the district? Has this view of yourself changed over time, and if so, what do you think caused it? Give me specific example(s) of how you think you have acted as a leader.
5. Reflecting on the development of OMS and CMSI,
  - a. what part of this has been the greatest accomplishment?
  - b. what causes you the most concern? What are the biggest barriers to the success of the Initiative?



## *Area Math/Science Coach Position Description*

**CLASS TITLE:** *Area Math/Science Coach - Professional Development*

### **CHARACTERISTICS OF CLASS:**

Contributes to the development, coordination, implementation, and on-going evaluation of the Chicago Math and Science Initiative (CMSI) supporting the Area Instructional Officer, Principals, Math or Science Specialists, Teacher Leaders, Teachers, and other Staff within an assigned area of the Chicago Public Schools. Primary reporting relationship is to the Area Instructional Officer with a secondary reporting relationship to the Office of Mathematics and Science and the Chicago Mathematics and Science Initiative.

### **ESSENTIAL FUNCTIONS:**

#### *Developing Coherence and Aligning Resources*

- Works with staff to implement a coherent curriculum aligned with state and national standards
- Promotes use of a consistent instructional framework and research-based strategies
- Helps build assessment systems that are aligned with curriculum and instruction priorities
- Ensures that human, financial, and material resources are aligned to support coherence

#### Professional Development and Human Resource Management

- Leads area-wide professional development for math and science specialists, teacher leaders, and teachers
- Supports school-based professional development led by math and science specialists and teacher leaders
- Designs, implements, and evaluates all area-wide professional development
- Assists in the recruitment of new teachers and staff to schools in the assigned area

#### *Using Data to Support Instructional Improvement*

- Works with Area Instructional Officer to develop a data profile for area schools
- Helps staff secure, analyze, and interpret data for promoting instructional improvement
- Supports principals, math and science specialists, and teacher leaders in using data at the school level
- Serves as a liaison with departments, offices, and organizations in securing relevant data

### *Instructional Coaching*

- Models instructional and math/science strategies with teachers and staff in classrooms
- Makes regular classroom visits to support instructional improvement
- Provides feedback to teachers and staff regarding implementation issues
- Serves as a coach working with staff to improve their practice

### *Addressing the Needs of Special Populations*

- Works with staff and schools to address learning needs of all students
- Coordinates with other departments, offices, and organizations to best serve student needs
- Provides customized professional development to meet unique student needs
- Ensures coordination across school-based resources to best serve student needs

### *Building Instructional Capacity*

- Participates in regular professional development to improve knowledge and skills
- Joins Area Instructional Officer in cross-functional training to build instructional capacity
- Attends and presents at local, state, and national conferences
- Serves as a liaison with colleges, universities, and educational partners to build capacity

## **MINIMUM QUALIFICATIONS:**

### ***Training and Experience***

Graduation from an accredited college or university with a Master's degree in Math or Science, Curriculum and Instruction, or Educational Leadership. Minimum of three years of experience in professional development and 5 years of teaching experience

### **Knowledge, Abilities, and Skill**

Excellent knowledge of mathematics and science curricula and Chicago Math and Science Initiative's framework

Experience analyzing math/science test data

Excellent oral and written communication skills

Considerable human relations and interpersonal skills

Demonstrates leadership abilities.

Good computer skills, including Microsoft Word and Powerpoint

### **Certificate Requirement:**

Valid Illinois teaching certificate

### **Physical Requirements**

Sedentary:

FALL – 2002

*Hiring of Area Mathematics and Science Coaches*  
**Summary**  
**June, 2003**

This is a brief summary of the steps to date of the hiring process that the Office of Math and Science used in the hiring of area mathematics and science coaches in May and June 2003.

**First Interview**

**Format**

From May 6-20, The Office of Mathematics and Science (OMS) interviewed over 180 candidates from the more than 250 applications that were received for the area mathematics and science coach positions. Applicants were interviewed in groups of 10-12 for approximately one hour. The interview consisted of two parts; in each part, candidates responded to a short video. The candidates responded in writing to the first video, and had a small group discussion of the second video.

In the first part of the interview, candidates watched a 15-minute video segment of a math or science class. This video segment was either: a 5<sup>th</sup> grade mathematics lesson on fractions, a 5<sup>th</sup> grade science lesson on density, or a high school physics lesson, depending on the session. The candidates then had 15 minutes to answer the following 7 questions reflecting on their viewing of the video. Candidates received the questions and had 5 minutes to read and ask any clarifying questions before viewing the video. They could take notes during the viewing. The questions were:

- (1) What were the observable goals of the lesson and were they met?
- (2) What evidence of student learning did you observe?
- (3) What aspects of standards-based instruction did you see reflected in this lesson?
- (4) As a coach, how would you assist the teacher in reflecting on this lesson?
- (5) What constructive feedback would you give to this teacher? Be specific.
- (6) What kind of mentoring/staff development would you provide for this teacher and other teachers who are using similar instructional materials?
- (7) In your opinion, what elements are essential for a good mathematics/science lesson?

In the second part of the interview, candidates watched a 10-minute video of a coaching session involving 3 CPS first grade teachers and a coach discussing a mathematics lesson. The candidates then were divided into 2 groups of 5-6 people and were given 15 minutes to discuss the following two prompts among themselves:

- (1) What are the roles of the participants in the video? Who is who? How do they interact?
- (2) What is this group discussing and reflecting about? Why?

Two trained OMS observers viewed each discussion group. Again, the two prompts were given to the candidates to look over and ask any clarifying questions 5 minutes prior to viewing the video. They were allowed to take notes during the viewing. The quality of the discussion was rated individually by the two reviewers using 4 criteria:

- ability of the candidate to identify the roles of the participants in the video,
- analysis of the content and pedagogical strategies discussed in the video,
- evidence of interpersonal skills during the discussion, and
- leadership skills evidenced during the discussion.

Following the group discussion, the two reviewers then discussed their scores and reached a consensus scale score between 0-3.

At the end of the interview, OMS staff asked candidates to write a reflection. The reflection was optional and anonymous, but most candidates wrote one. The prompt for the reflection was: “We understand that this interview process might be different from other job interview experiences you have had. Please share your reflections on the experience in the space below”.

### **Rating of the Interviews**

Between May 12 and 20, two independent readers read and scored each candidate’s written responses. The score for each of the seven questions, as well as an overall score, was determined with a rubric using a 0-3 score. Thus the candidate could receive a total score between 0 and 24. The two reviewers scores were then averaged and translated to a 0-3 scale score using the following ranges: 0-9 (assigned a scale score of 0), 10-14 (assigned a scale score of 1), 15-19 (assigned a scale score of 2), and 20-24 (assigned a scale score of 3). The scale score on the written work and that on the observed discussion were then added together to reach a final score between 0-6.

### **Resume Review**

Concurrent with the interview process, OMS staff reviewed candidates’ credentials. They read the resumes and the cover letters to make sure that each candidate met the criteria published in the CPS e-Bulletin, using the ISBE website at <https://isbes1.isbe.net/tciscertificateinquiry/default.asp> and the candidate’s social security number. Ideally, each of the candidates applying for the coach position has to have a minimum of 5 years teaching experience, a valid Illinois teaching certificate, an endorsement in either mathematics or science, or a National Board certification. However, either because of tight timelines, special requests, or unique backgrounds, some candidates who did not meet these criteria were interviewed. Next, the HR office screened the candidates currently working for the CPS. OMS staff is continuing to check the credentials for some of the non-CPS employees via the ISBE website.

### **Second Interview**

Candidates scoring 4 or greater on the combined writing and observed discussion score from the first interview, and a few candidates specifically requested by AIO’s, were then invited for a second round of interviews with teams of AIO’s and OMS staff between May 22-30. Each elementary candidate interviewed with two teams, while the high school candidates interviewed with one team. These interviews were in an individual interview format and focused on the individual candidate’s background and experience. Questions were asked from the following areas:

- (1) Career Development (Warm-Up)
- (2) Instructional Capacity
- (3) Using Data
- (4) Instructional Coaching
- (5) Special Populations
- (6) Professional Development and Human Resource Management
- (7) Interpersonal Effectiveness
- (8) Math and Science Content and Pedagogical Knowledge

### **Rating of the Interviews**

The candidates were rated on each of the first seven areas listed above on a scale from 1 (Unacceptable) to 5 (Outstanding). The scores were then summed to arrive at a total score from 7-35. The scores of all the interviewers of a given candidate were then averaged to produce the candidate’s final interview score on a scale of 7-35. These scores, along with the number of

interviewers who rated the candidate as “not recommended” (interview score of 7-19), “recommended” (interview score of 20-27), or “highly recommended” (interview score of 28-35), were tabulated and can be found in the associated spreadsheet. The strengths and weaknesses of the candidates as noted by the interviewers were collated by OMS staff and are included in Appendix A.

### **Final Selections**

By June 6, 2003 AIO’s will be asked to select final candidates. Currently there are two proposed processes and timelines for how these final selections will be made. In the final step of candidate selection, OMS staff will call some of each of the final candidates’ references and document the results, which will be shared with the AIO’s.

### **Why did OMS use this hiring process?**

The first interview process was used for several reasons. First, OMS tried to imitate some of the situations that coaches will find themselves in during fulfillment of their job functions. Namely, they will need to observe classroom mathematics and science lessons and be able to identify elements of standards-based instruction that were present or absent and how to help a teacher reflect on the lesson. They will need to be able to coach the teacher without creating animosity or feelings of inferiority. Elementary coaches will need to be able to do this across a range of different grade levels. Second, coaches will need to interact with a variety of different audiences effectively: AIO’s, other OMS staff, teachers, principals, etc. They will need to be able to operate as a team member and as a leader. They will need to be able to communicate effectively both written and orally. We attempted to provide experiences where we could gauge some of these skills.

Furthermore, OMS staff felt strongly that we need to model the type of behaviors we will be expecting of our coaches. For example, if we want coaches to use data in decision-making we better do the same, so we incorporated both a written component, an observational component, as well as an oral interview component, and collected data about each. Second, we listened to the lessons learned from the CRI about the strengths and weaknesses of their coach hiring process and tried to improve upon it. Specifically, we wanted AIO’s to be exposed to numerous candidates from which to choose. Third, we wanted to use the interview process as a way to communicate job expectations. Since we expect coaches to be observing, diagnosing, interacting and communicating with teachers, principals and others, about standards-based mathematics and science learning, we wanted to demonstrate that process. Finally, we wanted to use the process in a formative manner for our staff in order to gather information to plan the summer professional development for those that are eventually hired. For example, we learned that many of the candidates need more work on coaching skills and others need to strengthen their content knowledge.

Analysis of the reflection responses from the first interview indicate that about 80% of candidates mentioned that, although they were at first surprised by the format, they adjusted to the expectations and enjoyed the interview process. They liked it because it allowed them to interact with their colleagues, demonstrate their abilities to perform some of the job functions expected of a coach, discuss teaching and learning in meaningful ways, and it allowed them to have more interaction than a “standard interview.” Some mentioned that they would have liked to have known ahead of time of the format. The remaining 20% of the candidates indicated that they didn’t like the format because they thought it was odd, it was subjective, it didn’t allow them to truly demonstrate their teaching experience, or that it favored some personality types over others.

If anyone would like more information about the process, including viewing the videos; candidates’ work product; rubrics; or data, feel free to contact Bret Feranchak (553-2497, [bferanchak@cps.k12.il.us](mailto:bferanchak@cps.k12.il.us)).