

**Interim Evaluation Report:
CMSI/CUSP Leadership: A Year after the Leadership Academy**

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

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The conclusions drawn in this report reflect the viewpoint of the authors. While there are many potential viewpoints with respect to a given program, one way to facilitate improvement is through open discussions of such differing opinions within the context of data-based reporting.

Abstract

In this report, we focus on the development of math and science infrastructure and leadership in Chicago Public Schools' Office of Mathematics and Science (OMS) supporting the Chicago Math Science Initiative (CMSI). This interim evaluation describes the roles undertaken by OMS staff and issues that supported and hindered their work. Findings show that a great deal of growth has taken place within OMS to clarify the Initiative and the roles supporting it. Yet findings also show that some tradeoffs have occurred where OMS leadership have structured role development in ways that yield both strengths and weaknesses.

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CMSI/CUSP Leadership: A Year after the Leadership Academy Executive Summary

In this report, we focus on the development of math and science infrastructure and leadership in Chicago Public Schools' Office of Mathematics and Science (OMS) supporting the Chicago Math Science Initiative (CMSI). This interim evaluation describes the roles undertaken by OMS staff and issues that supported and hindered their work.

Evidence suggests that role development in the OMS has been supported by creating and defining one's role, connecting with external departments, supporting one another, building expertise in standards-based curriculum, improving coordination, utilizing leadership skills, developing high levels of commitment, and promoting openness to communication and change. Constraining role development are the staff's small numbers for a large number of goals, the skills of some CMSI leaders, and the paradigm shift required in the changes teachers are making. The uneven distribution of job responsibilities across OMS staff, the lack of overall coordination of OMS activities, and the inefficient use of human resources are major constraints to the development of the CMSI. In conclusion, we recommend ways for OMS to move toward strategic improvement of its coordination of programs and human resource development.

Findings show that a great deal of growth has taken place within OMS to clarify the Initiative and the roles supporting it. Yet findings also show that some tradeoffs have occurred where OMS leadership have structured role development in ways that yield both strengths and weaknesses.

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 OMS; and (3) the planning and implementation of a new CPS Chicago Math and Science Initiative (CMSI).

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 mathematics 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 aspects of the third goal above: the development of sustainable math and science infrastructure. Our primary goal is to consider, descriptively and analytically, the continuing development of the infrastructure of Office of Math and Science and Area-level leadership.

This descriptive and analytical report on the development of infrastructure in the Office of Mathematics and Science and the Area-level offices is a portion of a larger documentation and evaluation project of the development and implementation of the CMSI as a whole. The larger external evaluation plan also includes documentation and analysis of university-based teacher professional development courses (Wenzel, Trautvetter, Fendt and Hallman, 2003; Wenzel and Trautvetter, 2004), the hiring and support of math and science Area Coaches

(Fendt and Wenzel, 2003), and the implementation of standards-based curricula in selected elementary schools (Hallman, Fendt, Wenzel et al, 2004).

A year ago, our evaluation team delivered a report to the Office of Mathematics and Science on the roots of the CMSI (Hallman, Fendt and Wenzel, 2003). We focused on the first year of the OMS, describing the training and hiring of the OMS and Area-level staff, the designing of the CMSI, and the selection of the first group of CMSI schools. We primarily focused on the Leadership Academy, a three-month professional development workshop for the then new OMS staff, which took place from November 2002 until January 2003.

The 2003 interim evaluation found that the content of the Leadership Academy sessions was chosen with ambitious goals to expose participants to a range of standards-based curriculum in math and science, to build a sense of community and leadership and to provide time for concrete planning of the CMSI. Findings suggested that the Leadership Academy, to a great extent, modeled aspects of high quality professional development. Data analysis revealed the difficulty of the community building process. The co-teaching component of the Academy was found to have a great influence on those who participated, but had mixed success in terms of achieving goals. In conclusion, we suggested that ongoing attention should be paid to community building, the creation of ongoing professional development processes, strategic planning and uses of critical feedback.

In this report, a year later, we revisit the OMS staff to tell a story of the developing leadership and evolving roles. We describe an initiative that has developed rapidly, through the skills and energies of devoted, charismatic and talented leaders. We see the emergence of leaders, the development of new leadership skills and the solidifying of roles. At the same time, we see a series of tradeoffs in the manner in which the Initiative and office have developed, having both positive and negative impacts on the direction of the Initiative and the progress being made by OMS staff and those in Area- and school-level leadership positions in the CMSI.

We preface and frame this report with a description of the evaluation methods and data collection used to write this report. We then focus on the OMS staff, providing a description of the roles that have developed within the OMS and of how they support the CMSI. We then take a step back to consider more analytically the way in which these roles have developed and some of the barriers and supports to them. In this section, we describe a series of approaches and decisions that have influenced role development in the CMSI in ways that staff members view as both positive and negative. We then present a brief section on Area-level staff and their interaction with OMS.

Evaluation Methods

This report is written using data collected through interviews, focus groups, observations and shadowing at the district, area and school levels. Data collected included interviews with 25 staff members at the Office of Math and Science. These interviews were a mix of lead team, math facilitators, science facilitators, and other OMS staff members. These interviews took place in early spring 2004. In addition, 10 facilitators and staff members were “shadowed” while they were doing their work during the late spring of 2004. For descriptions of OMS staff from an external perspective, we draw upon interviews with and written reflections from Area Coaches. Finally, observations of OMS facilitators and staff

members by evaluation team members were also drawn upon. The following describes the amount and types of data collected and considered for this report.

Number	
25	OMS Facilitator/Staff/Lead Team Interviews
10	OMS Facilitator/Staff “Shadowing”
18	Observations of OMS Facilitator/Staff/Lead Team/Coaches
07	Written reflections with Area Coaches
17	Interviews with Area Coaches
04	Showcase Observations

Protocols used in this data collection are attached as Attachments A and B.

Findings

When we wrote the interim Leadership Academy report in the summer of 2003, high levels of ambiguity still existed around OMS staff roles and responsibilities. Staff members interviewed talked about “not seeing how the pieces fit together,” or even “not being sure I fit into this plan at all” (80% of those interviewed). The development of certainty about roles across the year was striking. Staff interviewed in 2004 were much more concrete and confident in their descriptions of their work. “I am glad you are back to talk to us now,” one OMS staff member noted in a February 2004 interview, “since I finally understand what it is I am supposed to be doing.” Twenty of the twenty-five interviewed staff members made a statement about how role ambiguity had improved since the interviews conducted in 2003.

The development and deepening of OMS roles is an important part of the story of the focus on creating a sustainable infrastructure of math and science leadership in Chicago Public Schools, CMSI goal number three. The continuing story in 2004 is one of great progress in role development as positions have become more clearly defined, both in the minds of staff members and in the planning of CMSI leaders. At the same time, evidence of new ambiguities and role difficulties has emerged as well. This section presents summaries of the OMS staff roles. Following the descriptions in each section is a brief consideration of the barriers and supports to role development for each group.

The Roles in Action

The Office of Mathematics and Science website lists 43 staff members. The roles are spread across seven general categories of work: a) Broad Support, b) Math Facilitators, c) Science Facilitators, d) Lead Team, e) the High School Initiative, f) Research and Evaluation, g) External Support and h) Administrative Support. The chart below displays the number of current roles in each of the above categories. The number in parentheses represents changes in the number of positions in this category during 2003-04. For example, two staff members in positions supporting the high school initiative left and one was hired during 2003-04. Previously, there were three positions devoted completely to high school, currently there are

two. The sections that follow provide a brief description of each of the first five roles.¹ The barriers and supports to the roles are considered for roles a-e; roles f, g and h are described in less detail and not considered in terms of barriers and support because data collection was not focused on these roles.

Role	Broad Support	Math Facilitators	Science Facilitators	Lead Team	High School	Research & Evaluation	External Support	Admin. Support
Number on OMS staff	6 (7)	7	3	7 (6)	2 (3)	2	5	9

Broad Support

The six staff roles devoted to broad support span a wide range of activities that touch a large number of CPS schools, many of whom are not directly involved in the Intensive Support strand of the CMSI. One role focuses on the use of technology within the OMS in the support of teaching standards-based approaches and in the tracking of student assessment and learning data. Another Broad Support role involves the coordination of science equipment, the training of teachers in the use of science equipment, and the supporting of schools who are considering the use of CMSI materials or who have adopted portions of it. An additional Broad Support role focuses on families, Local School Councils and communities by supporting these entities through Family Math (& Science) Leadership training, a family newsletter, and a math education television program. A different Broad Support role focuses on the Science Fair and its use in the education of students in science content, in presentation skills, in writing, in developing a project and in self-esteem. The creation and coordination of summer school and after-school programs is another Broad support role. One more role focuses on the coordination of university partners and programs that are supporting math and science education in Chicago Public Schools.

Supports and Challenges for Broad Support Roles

Staff members in Broad Support roles appear to function as a group of “one-person teams.” The breadth of what these roles encompass is absolutely amazing. For example, the Family and LSC Coordinator role involves the training of school representatives in family math leadership, the creation of and piloting of family science leadership training, the production and distribution of family math and science newsletters, the assistance with content for a math education television program and the ongoing availability to all schools in the district on math and science issues in family, LSC, and community populations. The other Broad Support roles are remarkably similar to this one in terms of the breadth of the role and the ambitious nature of the goals involved.

There are three major supports to the Broad Support roles:

¹ It is important to note that the manner in which these roles are categorized is a highly simplified look at the roles of OMS staff members who generally span two or more of these role types. Here, we have tried to categorize by what we consider to be one’s *primary* role affiliation. In some cases, positions no longer exist or have not been filled since a staff member left the position. The current number is given followed by the number of staff in this category earlier in the year in parenthesis.

- **The individual creation and defining of roles.** Those in these roles generally requested them in the early stages of the development of the OMS. Therefore they are highly tailored to individual interests and as such garner high levels of commitment and skill. “This role is my baby,” stated one staff member in a Broad Support role. “I am so thankful I had the opportunity to really make it my own.”
- **The making of connections with external departments and partners.** These one-person teams have a high level of dependence on the human resources from other CPS departments and staff members. “I try to coordinate with any other department in CPS who is overlapping what I am doing,” one OMS staff person stated. “Both to rely upon others to build what I am building and to make sure I am not duplicating.”
- **The assistance of others in Broad Support roles.** The group of Broad Support staff members relies on one another for assistance. “It is nice that we are all there in one office,” one Broad Support staff member stated. “We pitch in on mailings with one another and we just are open to venting to one another.” “We know that all of us in these [Broad Support] roles only have one person or two people tops, so we try to help one another out when we can,” stated another.

There are three major challenges to the Broad Support roles:

- **Their small number.** While it is amazing the extent of work staff members in these roles are able to accomplish, there is no doubt that impact is limited by their small numbers. While Broad Support staff members do their best to support one another and to reach out to relevant external departments and actors, they also recognize that they are doing the work of many. “I imagine sometimes what it would be like to have three or four really good people working on all of this important work instead of just me,” one staff member stated. “But that makes me feel negative so I try to focus on what I can do, just me, and stay positive about it.”
- **The focus on CMSI Intensive Support Schools in the OMS.** Those in Broad Support roles and Lead Team members alike recognize that ideally more time, roles and resources should be focused on supporting Broad Support schools. Limited Initiative resources require prioritizing and the success and effectiveness of Intensive Support schools is necessary as the most highly visible element of the CMSI. At the same time, those interviewed longed for more focus on Broad Support schools. “We do have coaches...but they seem to be pulled into doing the walkthroughs which is just sort of taking the pulse...of schools,” one staff member commented. “I don’t feel we’re doing enough in [Broad support] schools...Not that I am saying we could, with the manpower we have, but we need to do a lot more for Broad Support schools, both to lead them toward standards-based and to improve their teaching around other materials.”
- **The lack of coordination of Broad Support work.** At the same time, staff members were highly concerned about the lack of coordination of the Broad Support work and the lack of connectedness to the work being done by OMS Facilitators in Intensive Support schools. This was raised from different perspectives. Those in Broad Support roles wished they could have a higher level of coordination to make their impact stronger. “I just feel like we [in Broad Support roles] are all over the map and those in Intensive Support schools don’t have the time to use

some of what we are doing, we aren't coordinating our work." From the perspective of those on the Lead Team, this lack of coordination was leading to a scattered focus on an initiative that needed to be tight. "We have so many things going on at once, even in Intensive Support schools," one Lead Team member stated. "We need someone to focus on making sure that our Broad Support and Intensive Support work makes sense in some kind of cohesive plan." At the same time, a Facilitator noted a lack of understanding of what some of the Broad Support staff were doing, and expressed frustration that these individuals were not relieving some of her workload. "I feel like we don't have enough resources to do all we are trying to do. Some of these [Broad Support] roles do not seem to be focused on the main goals of the CMSI, which is getting to the IS schools. I could use these people so that I have fewer schools to support!"

Math Facilitators

This role was designed to support the implementation of OMS-endorsed math materials in designated CMSI Intensive Support schools. These seven staff members divided a group of 59 Intensive Support math schools among them. Their work was to support the Initiative through the mentoring Specialists, through co-teaching and working with teachers, and through ongoing monitoring of school-level commitment to and support for the Initiative.

Interviews suggest that the Math Facilitator role varied in the manner in which roles were enacted. Facilitator descriptions of their roles differ in structure and approach. Variations occurred in the scheduling of school site visits and the specific tasks undertaken during the time in a school. Roughly half of the Math Facilitators interviewed described their schedule as revolving around regular site visits to each of their schools. The other half stated that they visited schools in a sort of "triage" approach, where they went to what they perceived to be their neediest schools more often than their "stronger" ones. Similarly, while engaging in site visits, roughly half of those interviewed described their work as primarily focused on mentoring teachers, "taking over classrooms," co-teaching, modeling, etc., while the other half stated that they primarily observed teachers and made their comments and suggestions to the Specialist, who would then pass along their comments.

Math Facilitators had between five and ten schools in their charge. The Facilitators with five schools were also responsible for another major task at the Office of Math and Science (for example, planning professional development for teachers) and the Math Facilitator with ten schools had a pilot cluster of schools with a single Specialist. Most Math Facilitators visited their schools once every two weeks or once a month, and most communicated with their schools via phone or e-mail when they could not be in the building.

Two supports were evident in data collected from and about Math Facilitators:

- **Experience in standards-based curriculum.** About half of Math Facilitators were hired because of their expertise in OMS-endorsed standards-based curricula. This was seen by Lead Team members and by the Facilitators themselves as a great support to their work in the CMSI. "These people are more knowledgeable in Everyday Math and Trailblazers and CMP and Math Thematics than anyone in the city," one Lead Team member stated. "We got the best of the best and that is

making a huge difference in both our expertise and credibility in math at the elementary level.” Math Facilitators express high levels of comfort with the materials, both those hired because of their expertise and those who were exposed to them for the first time in the CMSI. “I have enjoyed all I am learning so much,” one Math Facilitator stated. “I am working hard to stay one step ahead of my Specialists, but I am doing work I never thought I could.” “I believe in this approach and that is why I am here,” stated another. “It feels like home.” The blending of these two types of Facilitators and the high level of commitment to the math materials is a support to these Math Facilitators.

- **Increasing levels of coordination and communication.** Although both Lead Team members and Math Facilitators admit that there were tumultuous times during 2003-04, all seem to agree that things have settled down and improved with the new leadership and coordination of the group. “We are hoping for the best,” one Facilitator stated. “I think we have learned our roles a little better and we can see that we are coming together under better coordination.”

There were three challenges to the Math Facilitator role, from the data collected:

- **Specialist skills.** Math Facilitators, more than other groups interviewed, talked about low Specialist skills in leadership, content and mentoring as a major challenge to their work. The lack of OMS involvement in the selection of Specialists was talked about by nearly every Math Facilitator interviewed. One Math Facilitator stated, “I think we are paying a big price for our choice of how we hired them...I am not saying that those who are good didn’t need any help from us...But some of them, I think they were not material we can turn anything into...some of them shouldn’t be there.” Math Facilitators talked about their dilemmas of how to deal with weak Specialists. “I feel like I pour myself into the two schools with the very weak Specialists and then the schools where I actually have hope for implementation suffer,” one Facilitator stated.
- **Lack of coordination of Elementary Math Facilitators.** Lead Team members spoke about a lack of coordination of the elementary math work that was standing in the way of the creation of a coherent math initiative. The focus of the Director of Math on the largely understaffed high school initiative, led to a lack of leadership in elementary math. The Lead Team filled this gap by appointing the Strategic Planner as the Elementary Math Coordinator. This temporary solution appeared satisfactory to the Lead Team but was met with resistance and uncertainty by the Facilitators themselves. It is important to note that Facilitators were respectful of the skills of the Planner, but concerned about a lack of math content knowledge. “My concern is that our manager for the math people is not a math person...She’s great for helping out in school relations though...she handled some problems in one of my schools so nicely. She has that quality. But I am concerned about having someone I can talk to about my math questions,” one Facilitator stated. The hiring of an Elementary Math Coordinator in the summer of 2004, with math content and curriculum knowledge, shows the commitment on the part of OMS leaders to solving this problem.
- **Too many needs, too little time.** Math Facilitators usually had between seven and ten schools to support. All of those interviewed thought this was too many. Most Math Facilitators thought that it was important to do site visits at least every other

week and at minimum once a month. With the meetings and other responsibilities they had at OMS, they felt that visiting even once a month was often not possible. They expressed concern about the level of support they were providing for their schools. “If you just look at travel time, I am wasting hours and hours. Then the meetings, that takes more time. I can’t support seven, eight, nine schools with this kind of schedule,” lamented one Facilitator.

At the same time, four members of the OMS Lead Team were concerned that Math Facilitators were not building the kind of infrastructure they should be to move schools toward independent support of their own implementation. “I think we didn’t make it clear to the Facilitators that the goal is to make this self-sustaining so that they don’t have to be there all the time. We need to teach Specialists and First Wave teachers to be leaders—that is our job as mentors, not being there to hold their hands,” one Lead Team member stated. Differences in the understandings of roles were evident in all of the roles examined here, but more so in the Math Facilitators than others.

Science Facilitators

Similar to the Math Facilitator, this role was designed to support the implementation of OMS-endorsed science materials in designated CMSI Intensive Support schools. These staff members divided a group of 22 Intensive Support science schools among them and were to support the implementation of curricula through the mentoring of Specialists, through co-teaching and working with teachers, and through ongoing monitoring of school-level commitment to and support of the Initiative. Two Science Facilitators reported having 7 schools each while the third reported having 8.

The smaller size of the Science initiative seems to have had the result of making roles more similar across Science Facilitators, and the span across fewer schools has made work more coordinated. Science Facilitators interviewed generally expressed a high level of satisfaction with their work. They enjoyed one another as colleagues and had a tight-knit group. “We sit together, eat together, e-mail, call one another at home...it is nice,” one Science Facilitator stated.

Science Facilitators generally reported visiting each of their schools weekly or every other week. They tended to collaborate with their Specialists, sharing duties while they were in the schools. The high need for material coordination led Facilitators to spend time assisting with materials management, and time debriefing with both Specialists and teachers about ways to improve classroom organization.

Science Facilitators reported having a presence in their schools. “When I am not [at this particular school] on Tuesdays, they miss me and wonder where I am,” stated one Science Facilitator. “I always call ahead if I am not going to be at [X] School on Thursdays because I think they sort of expect me,” stated another.

Data collected revealed two main supports to the work of Science Facilitators:

- **Good relations among Science Facilitators.** Science Facilitators noted that they were “on the same page” and “worked well together.” This was seen both by the Facilitators and the OMS Lead Team as an important strength of their work together. “I think they have a real challenge. They really are in a completely new position. It is very rare that anyone takes science reform seriously,” noted an OMS Lead Team member. “Their tight-knit group and collaborative problem-solving skills is really an asset to facing those challenges.”
- **Good leadership and mentoring skills among Science Facilitators.** Science Facilitators are described by OMS Lead Team members and teachers in a sample of CMSI Intensive Support schools as being highly skilled in mentoring and assistance. “We are lucky that we have a group of Science people who make teachers and Specialists comfortable in the learning process,” one Lead Team member noted. “Our [Science] Facilitator is highly visible in our school. [The person] is committed to solving problems, and doesn’t judge us or put us down if something isn’t working right,” a Specialist noted in an IS science school. “I really feel like we collaborate even though I am learning a lot from [the Facilitator].”

Data collected from Science Facilitators suggested there were two main challenges to their work:

- **Materials management.** Teaching Specialists and teachers the materials organization and management necessary for standards-based science was reported as “extremely difficult and, at times, impossible” by Science Facilitators. Science Facilitators talked about this aspect of their work in every interview. Teaching teachers to do this work, coordinating school schedules to make the deep work possible, changing mindsets about lab science was a huge component of Science Facilitator work. “We have not set aside enough time for training on just the change process,” one Facilitator reflected. “This is a huge, huge shift in time usage and in thinking about what science *is* and we haven’t talked with principals, Specialists and teachers about how to approach it and make the changes.” Facilitators expressed great doubts that some schools could make this approach work without extensive training, perhaps beyond what CMSI was paying for, and without principals being trained in the curriculum.
- **Lack of prioritizing of science.** Without exception, Science Facilitators interviewed also talked about the difficulty of their “place on the totem pole” relative to reading and math. “We’ve been on the bottom of the barrel forever...I understand reading is important...but the reading department comes and says, you’re the science teacher, you should teach reading in your science class. And I’m sitting here...saying, ‘science teachers teach reading all year long.’” Facilitators believed schools needed to schedule enough time for science lessons and needed to provide for materials management. In addition, a change in perspective on how schools think about science was thought to be a prerequisite for the successful implementation of the Science curricula.

Lead Team

These seven OMS staff members have the most varied roles of the ones described here. These staff members span a large number of levels and foci of the Initiative. What ties them to one another is their work together on the “Lead Team,” a group that organizes the CMSI programs as a whole. Within this group are the Chief Officer, the Strategic Planner, the Elementary Science Manager, the Elementary Math Manager, the Director of Science, the Director of Math, the Associate Director of CUSP and the Senior Research Analyst. The roles of this group of talented and committed individuals span wider than a report description will do justice. Together, these seven people spearhead the vision, goal-setting, program coordination, staff supervision, budgeting, external communication, oversight, overall planning and evaluation coordination.

The role assigned to each of the Lead Team members reveals only their primary responsibility; however each person does many additional tasks. For example, the Strategic Planner, during 2003-04, also spent part of her time coordinating Elementary Math. The Senior Research Analyst and the Director of Science spend portions of time doing budgeting in addition to their other, more primary, tasks. The Director of Math also spends a great deal of time coordinating external partners of all kinds in addition to her content-specific role in the high school initiative.

This spreading of roles thinly, as necessitated by budget constraints on an initiative that spans across the entire Chicago Public Schools is simultaneously one of the Lead Team’s greatest strengths and weaknesses. The involvement in such a wide range of activities and programs reveals the high level of talent and commitment of the Lead Team members. At the same time, this leads to a lack of coordination and strategic approach and ultimately, exhaustion of these valuable human resources.

Evidence suggests the following are supports for the Lead Team:

- **High levels of commitment and talent of Team members.** Lead Team members and OMS staff at large recognize the talents of their colleagues who are leading the Initiative. “Anytime someone criticizes [a member of the Lead Team] I remind them that we are lucky to have someone who really believes in what we are trying to do,” stated one Facilitator. “A lot of departments can’t even say that.” “I look around me and I see a phenomenal group of people,” said a member of the Lead Team. “We may not always agree, in fact we often don’t, but we have respect for all that each person brings, and how hard we all work.”
- **Openness to communication and change.** Lead team members and the OMS staff made frequent comments about the openness of Lead Team members to communication and change. Although OMS staff members expressed a desire for even more channels of communication with the Lead Team, they were also aware that they had high levels of access to OMS leadership. “I think we could do more to get on the [Lead Team] agenda and get some of our concerns taken care of,” one Facilitator stated. “But I also know that we do have avenues to talk to them and also it is a good thing that we have some of our own space to make decisions, too.” OMS Staff interviewed including those on the Lead Team described the Chief Officer as being “approachable,” “easy to talk to,” and “interested in my ideas.”

Data collected from and on the Lead Team point to the following challenges for the Lead Team:

- **The “spreading thin” of members.** There is no doubt, in analyzing Lead Team interviews, that this is a group under tremendous pressure and stress. “We are all gaining weight,” one Team member stated. “Look at us, we are here all day and night,” stated another. Lead Team roles generally span both content and administrative roles. For example, it is not uncommon for these roles to involve not only the creation of the whole vision of a strand of the Initiative but also the actual pulling together of nuts and bolts to make an activity happen. Lead team members describe their roles as “immensely satisfying” but “overly stressful.” At the same time, Lead team members recognized that they could do more quality work on all they were doing if they could just do less. “I can do all I am doing, I guess. But not as well as I would like.”
- **The lack of overall coordination of OMS activities.** OMS Lead Team members interviewed each noted a lack of overall coordination of OMS activities and a lack of time to focus on it if they were to complete the other tasks for which they were responsible. “I know we need to spend more time focusing on the overall plan,” noted one Lead Team member. “We promised ourselves we wouldn’t become one of those CPS offices going from one crisis to the next, but now we are doing it sometimes.” One Lead Team member proposed a solution perceived to be difficult but necessary. “We need to learn how to say no,” stated the Team member. “We need to focus on doing what we can do really well and contain the Initiative a little.” Another OMS staff noted the same problems with coordination. “Who is keeping track of all of these little pieces and making it a big whole?” asked one Facilitator.
- **The inefficient use of human resources.** The reference to this barrier to CMSI work was the most frequent in interviews from all parts of the OMS. OMS staff members consistently referred to the disproportionate amount of work that some staff members were doing relative to others and the need for accountability to put an end to what one staff member called “a slacking off” on the part of some OMS staff. This statement was made in more positive respects as the following: “We could definitely be using our human resources in more productive ways...we allow people who we perceive don’t have the right skills to do less than those we see as more capable”; in other cases, negatively as “There are some people who literally aren’t doing a thing around here.” Some staff perceived the inefficient use of human resources as a problem with role ambiguity. For example, one staff member noted, “If I knew exactly what I was to be doing relative to the Coaches and Specialists, I could be more efficient.” Others pointed to the Lead Team as “not dealing with blatant lack of responsibility.” As external evaluators, it is not our job to point fingers, make judgments or name names. We point this out as a serious concern of those interviewed in the spring of 2004.

High School Staff

Two staff members at OMS are currently focused on the high school initiative full-time. These two roles are primarily focused on the support of curriculum implementation through the use of Cognitive Tutor and Agile Mind, computer-based tutoring and learning programs, and on the ongoing development of the Double Period Algebra initiative, an increased

exposure of low-achieving math students to algebra. Two Lead Team members, the Director of Math and the Director of Science, focus primarily on the high school initiative as well, although their roles include a much larger set of tasks spanning budgeting, external relations with partners, and other CPS departments and vision and goal-setting.

The high school initiative is in contrast to the elementary initiative in its broad focus on all CPS high schools. In the winter and spring of 2004, a list of endorsed materials for math and science subject areas were released to schools. A support structure is being developed to offer professional development and other support to schools that choose to use the materials. The programming and planning for Double Period Algebra was refined such that a syllabus was put together for the second period and schools were to be given more guidance and assistance about how to utilize the time period. Work continued on developing materials and approaches to strengthening departments, increasing the number of schools using OMS-supported materials and in providing supportive programs for teachers and schools using the materials. One Lead Team member seemed to sum up the strengths and weaknesses of the high school initiative in one statement. “We finally have the vision of what we are trying to build but a year later than we would have liked. And now that we have it, we don’t have enough staff or resources to make it a reality.”

Data collected indicate that the following are supports to the high school initiative:

- **The selection of curriculum materials.** The move to endorsing and supporting a set of curricula materials at the high school level was seen by OMS staff members as one of the major accomplishments and supports for the high school initiative. “I am really excited about the materials selection because I think that is going to provide the structure we need,” stated one OMS Lead Team member. “Our PD will be really focused. We were using pieces from really good materials but now we don’t have to do it under the table!” The focusing of professional development, support structures and goals of the initiative was seen to be possible through the selection of a common set of curriculum materials. This was viewed as a huge support to the high school initiative.
- **The restructuring of Double Period Algebra.** “When we put together the Double Period Algebra piece, we didn’t think carefully enough about what was going to be needed to make it work. We left schools to do it...we didn’t prescribe the second period...So that was problematic because we weren’t supporting people in what to do.” This Lead Team member went on to talk about the improvements that had been made in the planning and programming of Double Period Algebra. The creation of a syllabus for the second period was seen as a major improvement to the approach to the Double Period and a positive step in the development of the high school initiative.

Those interviewed suggested the following challenges to the high school initiative:

- **The undefined (or late defined) nature of the high school coach role.** All the high school initiative actors interviewed talked about the role of the high school coaches as an issue in the development of the CMSI at the high school level. “We never laid out a good plan for the [high school] Coaches...because they were so

marginally on board. We were thinking we would lay out a plan that would help them support as we went and without laying out clear agenda, the Areas took over their role,” stated one Lead Team member. “I think we still haven’t figured out what [high school] Coaches are supposed to do...it is really hard to figure out what the strategy is to pull all of this together,” stated another Lead Team member. OMS staff talked about wishing they had taken more time to set the agenda for Coaches. There also was an awareness that OMS staff wished they had more involvement in the hiring of high school Coaches. According to OMS staff, the skill level and commitment to the ideals of the CMSI were in question for high school Coaches. OMS Lead Team members indicated that they had “won the intellectual battles about what the right strategy is” in elementary school while there was “still a little lingering confusion at the high school level for that.”

- **The late development of the high school initiative.** Part of the lack of direction for the high school Coaches was linked, in the mind of OMS staff members, to the late development of the initiative itself. “We just didn’t seem to know what direction to take with high school,” one OMS staff member stated. “By the time we found our direction for high school, our Coach resources were focused elsewhere,” stated another. Those interviewed about the high school initiative reflected that the components of the programs were “piecemeal” and that there was “little coherence” among the pieces of the high school program.
- **Size of the high school staff.** Those interviewed about the high school initiative noted that there simply was not enough staff to do the kind of work that needed to be done in the planning and implementation of a high school initiative. “When you have only two or three staff members who are devoting their time to the whole high school initiative, what can we expect?” noted one OMS staff member. “Look at our human resources and budgeting and you can see in black and white that the CMSI is primarily an elementary school initiative,” stated another. Staff turnover during the 2003-04 year was also crucial as two High School Math Facilitators left for other positions.

Research and Evaluation

Two internal OMS staff members are devoted completely to research and evaluation tasks. These include analysis of test score and course taking data to understand the impact of the CMSI and the monitoring and evaluation of CMSI professional development and programming. The Senior Research Analyst focuses largely on research and evaluation, but this role also spans a much wider range of programs and tasks surrounding the larger Initiative, including budgeting, coordination with other CPS programs and departments and strategic planning.

External Support

Five staff members are external liaisons who work in other departments of CPS or for other institutions and assist the Office of Mathematics and Science in various capacities. We do not have information on the nature of these roles since they were outside of the scope of data collection.

Administrative Support

Nine staff members primarily function in roles that support the programmatic work of other actors. These staff members monitor and manage budgeting, payroll, room assignments, attendance for professional development, scheduling and correspondence with external CPS departments.

The Interaction of Roles in the CMSI

The role development that has occurred in the Office of Math and Science and around the Chicago Math Science Initiative over the past year is impressive and the staff is to be commended for all they have accomplished. The elementary initiative has moved from a rather amorphous structure into one that is focused and relatively well-defined. This has occurred in a short amount of time—only one year. The report a year ago about the Leadership Academy presented a staff in the earliest stages of new role development and all of the uncertainty that went with the opening of a new department and the unveiling of a new initiative.

The roles of OMS Staff supporting the CMSI have become much more concrete and participants seem more certain about what the Initiative stands for and the values it is based on. However, there are still ongoing role definition issues that continue to need to be addressed. These issues aren't the same as a year ago; however they are there and need ongoing attention.

The section that follows focuses briefly on Area Coaches. They, like OMS Staff, have experienced the lack of clearly defined roles. We insert this brief update here as an opportunity to acknowledge the integral relationship between Area Coaches and OMS staff members especially in light of more clearly defined roles.

Area-level Leadership

In our December 2003 report on Area Coaches, we noted their lack of role definition, their struggle to devise and utilize a coherent plan for their work, and their frustration with CPS top leadership for seemingly not supporting CMSI (Fendt and Wenzel, 2003). In addition, we described the tensions that existed between Coaches and Facilitators especially around their roles of supporting schools and attributed this to the “forming, storming, and norming” process of group formation discussed by Al Bertani, CPS Office of Professional Development Chief Officer, during the Leadership Academy of summer 2003. As we continued to observe Elementary Math and Science Coach meetings, CPS Coach Coherence meetings, and Coach and Facilitator joint meetings, these themes continued to surface.

In our Data Brief of May, 2004, we noted continuing role ambiguity and problems with work definition of coaches (Fendt and Hallman, 2004). We excerpt from this data brief here to widen the discussion about role development on the OMS staff. The continuing development of the role of OMS staff and Facilitators will be most effective if it occurs in tandem with that of other CMSI actors such as Coaches, principals, Specialists and teachers.

In the April data brief, noting strained relationships and a decline in professional learning community (which they described as having been very high in summer 2003), Coaches expressed disappointment in the quality of their work together and with other OMS staff during 2003-2004. Coaches talked about how preserving a shared vision and strengthening

professional community required protected time to work and reflect together with Facilitators and Specialists but that this had not occurred throughout 2003-04.

Coaches were most concerned about their own Coach community. Without a framework of unified vision and goals, Coaches felt they were not all on the “same page” in the CMSI work they do within their Areas. Likewise, they felt this lack of a framework contributed to their feeling that their work was “hit or miss” in terms of bolstering the capacity of Broad Support and Readiness schools for CMSI implementation. In addition, Coaches noted differences in opinion about whether or not to (a) continue to work with Lesson Lab; (b) create a coherent plan for working with Broad Support and Readiness schools; (c) provide consistent PD to schools; or (d) seek professional development from vendors.

Discussion at the April meeting revealed that Coaches felt that the divergence in their work and focus was due both to a lack of direction and supportive structures from OMS as well as to their own inability to maintain a supportive professional community. Coaches recognized and owned their own missed opportunities to create a consistent framework for their shared work and to follow through on this noting several failed attempts at creating a framework, whether due to lack of OMS support or lack of impetus on their part. For example, the professional development plans Coaches designed together fizzled out before the plans were completed or implemented.

Coaches expressed a desire to move beyond the lack of clarity around their work and role. With the experience of the first year of the Initiative behind them, Coaches better understand their work and role and were excited and eager to create a coherent structure that each Coach present at this meeting was willing to commit to—a shared vision of the role of the Coach within the CMSI. Together they came to the realization that from the beginning of the CMSI, Marty Gartzman had given them the voice to define their work and role. They appreciated this opportunity yet questioned the extent to which their ideas would be embraced by OMS leadership. The Coaches spoke confidently about their ability to define their work and roles more effectively at this point in time. They expressed hope that if they took what they had learned from this year and together defined their future work, that the Office of Math and Science leaders would support them in this endeavor to shape their role and the Initiative more generally.

Coaches perceived a lack of support for their work by CPS leadership, namely Arne Duncan and Barbara Eason-Watkins. Coaches saw evidence of this lack of support reflected in recent budget cuts and in the actions of CPS leaders who used public forums to talk about reading or literacy but not science or math. The Coaches felt that math and science were not central to the agenda of these leaders. Coaches explained that their concern for the lack of centrality of math and science in school system priorities was present in their work predating the CMSI. However, this concern had a different meaning to them as math and science leaders of a district initiative, as they were thinking about the future of CMSI and whether they want to continue to be associated with it. Coaches also worried that principals may look at CMSI differently if they perceive that support for it was not coming from CPS district-level leaders.

Concerns about Next Year’s Implementation

Coaches expressed numerous questions about plans for the 2004-2005 implementation of CMSI. These included the following:

- What is the role of Coach/Facilitator in Intensive Support schools without a Specialist? What is required of Coaches now that these schools have written them into their SIPAAA?
- What is the vision/mission of CMSI (not what is on paper, but what is the plan/framework for unified and coherent implementation?)? How will Coaches be involved in these decisions? How will this framework be set up to endure budget cuts? What will support and commitment to it look like?
- Why have budget priorities taken support away from Specialists within schools while continuing to fund outside consultants and vendors? Is it possible to create internal capacity to provide professional development to schools from people within the system instead of paying outside vendors exorbitant rates while eliminating school Specialist positions?
- What is going to be done for Broad Support schools next year? Is it just or fair to not provide Coach services to Broad Support schools not implementing OMS materials? Will AIOs support this and will it put Coaches in a difficult position with AIOs if this is what OMS expects of their work? How will CMSI be communicated to these schools (by whom and with what support?)? What supports will be needed to continue a positive attitude about CMSI?
- What frameworks are going to be in place to ensure that professional community develops between Coach-Coach, Coach-Facilitator, Coach-Specialist, and Coach-OMS Staff?
- How will CPS show that math and science are priorities? How will CPS support the CMSI vision? How will this support be communicated?

In fall and winter of 2003, Coaches expressed frustration about role ambiguity they were experiencing and their lack of coherence in their work. In April of 2004, Coaches continued to express concerns about their role, in general and in relation to those of OMS staff. The looseness of the definition of their role was seen by some Coaches as positive and by others as negative. The lack of clarity of the role of Coaches and approaches, and the lack of common planning time with OMS Facilitators, led to an incoherence of goals that made it impossible for Coaches to coordinate their work. As the OMS leaders and staff continue to contemplate and develop their own roles, the realization that Area-level and school-level leadership role development is inextricably linked is essential.

Analysis and Discussion

The development of mathematics and science infrastructure, at the district-, instructional area-, and school- level is an essential aspect of making the CMSI a sustainable improvement program. In a school system where budget priorities are ever-changing, and in which

programs and disciplines compete for funding, the creation of an initiative that leads to self-sustaining roles and programs that will support ongoing development and change with or without high levels of funding is critical.

This report on the role development of OMS staff, the barriers and constraints to their roles and their interaction with Area- and school-level staff, points to the strides OMS staff members have made in their roles and to areas of improvement that can be addressed. The sections that follow summarize these findings and offer recommendations for ways to address barriers.

Role Development Decisions: Accomplishments and Tradeoffs

In this section, we examine some of the accomplishments that OMS staff point to as the ones they are most proud. We then consider some of the decisions about role assignment that have influenced development of the CMSI in ways that staff perceive as positive and negative.

Highlighting Accomplishments

In interviews, OMS staff point to a set of impressive accomplishments in 2003-04 for which they are most proud. Here, we highlight those most frequently discussed.

- **Professional development for teachers.** OMS staff interviewed recognized that they were on the cutting edge in offering ongoing professional development for teachers implementing OMS-supported curriculum. These professional development workshops touched hundreds of teachers. The professional development was seen as critical by Facilitators and teachers alike. Facilitators reported that teachers' pacing and classroom organization was improved dramatically by attending professional development (See Hallman, Wenzel and Billings, 2004). Teachers interviewed in an exit conversation at a math workshop reported high levels of satisfaction. "This is the best support I have ever received in implementing a curriculum," stated one teacher. The organization and logistics of making the workshops possible were also seen as an amazing feat by OMS staff, teachers and professional development providers.
- **The hiring of new staff around goals for the CMSI.** One OMS Lead Team member talked about the "intellectual battle" that had been won in the elementary initiative as the group had evolved toward a common understanding of how the standards-based approach could improve math and science in Chicago Public Schools. The sharing of this foci and goal allowed for the hiring of new staff around them. "Being able to hire new staff around the vision and mission is the biggest strength of the elementary initiative," stated one staff member. OMS staff members reported high levels of commitment to the goals and approaches of the CMSI. "We disagree sometimes about how to get there, but the sort of 'where we are going' seems to be common," a Facilitator stated.
- **The curriculum showcases.** While the offering of professional development on OMS-endorsed curriculum was open to all teachers in Chicago Public Schools, OMS staff was frustrated by the fact that this was not common knowledge in the district

and that primarily Intensive Support teachers were the attendees at teacher professional development. As a result, pathways to reaching out to Broad Support schools occurred primarily through roles aimed at Broad Support and through the curriculum showcases offered by OMS. The curriculum showcases were an outreach to all CPS schools, offering exposure to standards-based curriculum materials. During 2003-04, OMS offered two elementary showcases and two high school showcases. In addition, smaller follow-up sessions were offered for interested schools to have another opportunity to talk with vendors prior to the purchase of materials.² “The showcases were an amazing experience, we are so proud of them,” one OMS staff member stated. “To have literally hundreds of teachers from hundreds of schools show up was so great, and I think they really turned some schools on to the standards-based approach.”

- **Curriculum selection for high schools.** Lead team members and those working on the high school initiative point to the selection of OMS-endorsed curriculum materials as a huge step in the high school program. Those interviewed spoke enthusiastically both about the process of the selection as well as the outcome. “I was just so happy about the fact that we utilized teams of teachers and coaches to make the selections,” one OMS staff member noted. “It sent the message that this Initiative belongs to all of us.” A Lead Team member talked about the benefits of the outcome of the process stating, “We have now made our approach to math and science clear to leaders and teachers in CPS.”

Considering Tradeoffs

In many respects, role development around the CMSI at the district-, area- and school-level reflect the conscious decisions of OMS leadership. OMS staff perceptions of these decisions as positive or negative are themes that appear so frequently in collected data, that we felt it important to highlight them here. These tradeoffs emerge from the insights of those interviewed.

- **Bringing together the existing staff from diverse departments.** The bringing together of individuals from a wide-range of previously existing programs in CPS to form the OMS is seen by staff members as the department’s greatest strength and greatest weakness. Those interviewed suggest that the strength comes from the many perspectives and viewpoints that were to be gained. “We all see things with different eyes, since we have different backgrounds, and that is good,” stated one OMS staff member. At the same time, OMS staff talked about their perception that some staff members may still not be on board with the CMSI approach and that this was a barrier to the success of the Initiative. “I guess I just see that some of us...were cut from a different mold...there are still some of us who don’t embrace the direction of the Initiative...because we came from such different places. And there has to be a point where we make some tough decisions and changes in staffing.” The decision to bring together existing staff and departments to form the OMS is seen to continue to influence the development of the CMSI in both positive and negative ways.

² For additional details on the curriculum showcases, see Hallman, Fendt, Wenzel et al, Report C, 2004).

- **Allowing leaders at the district-, area- and school-level to define their own roles.** Confusion over role responsibilities between the district, area and school levels was a common point of discussion in interviews at all of the levels. “We purposely left the role of Facilitator, Coach and Specialist somewhat open,” stated one Lead Team member. “We wanted these people to develop their own style, role and leadership. In the end, I think there was a lot of confusion about who was to do what.” Those interviewed had very different ideas on the role definition process and whether it was a positive or negative experience. “I was glad to have some room to make my own approach,” stated one Facilitator. “I worked out my role with the Area coach and individually with each of my Specialists and that worked fine for us,” she stated. On the other side were respondents who felt that they could not make their job work because it was too undefined and they were surrounded by other undefined roles, making the situation more impossible. “Do I feel like we have the right human resources in these [Facilitator, Specialist, Coach] roles? Yes. But we are tripping all over each other because our work is undefined. I want a list of responsibilities. I think it would help all of us to [have a list like that to] stop duplicating efforts and ticking each other off,” stated another Facilitator. Role definition between the Facilitators, Coaches and Specialists was a contentious issue that is likely to continue.

Another way in which the room for OMS staff to design their own roles has led to a wide divergence in the opinions of staff is in the creativity and commitment inspired by high levels of involvement of role making versus the perceived lack of coordination and focus that this room for creativity leads to. Some OMS staff members treasure and value most their role in designing and defining their own job. “I love coming to work because I made my job around my passion.” They are highly committed to what they do because they were allowed to tailor their job to their interests. At the same time, staff members suggest that this individualizing of roles has led to a lack of coordination and focus at the Initiative and office level. “There is a general lack of cohesiveness that is resulting from everyone doing their own thing, you know, making their own role.” Thus, the decision to not strictly define these roles was met with both strongly positive and negative responses.

- **Allowing schools to choose their own leaders.** The lack of OMS participation in the process of selecting Intensive Support Specialists is another decision with strong positive and negative responses. Facilitators spoke openly about the range of skill-levels exhibited by their Specialists and the extent to which involvement by OMS in the selection process might have led to a higher quality of the pool overall. “It would have been so much better if we had been involved, the way we were in the selection of elementary coaches,” stated an OMS staff member. At the same time, other OMS staff talked about the good decisions principals made in selecting Specialists; how they had selected candidates who would have been written off in terms of paper qualifications, but who were excellent. “So no, I don’t think minimal qualifications are necessarily the answer because I have these Specialists who on paper, I was like, ‘you have got to be kidding, a librarian?’ but then they are actually very skilled for the job...So principals being in charge of selections is good in many ways.”

Evidence suggests that leadership and role development decisions, about bringing together a diverse staff, about allowing staff to define their own jobs and about the lack of involvement

in the selection of school leaders, have led to outcomes that are perceived to be either strongly positive or intensely negative by various staff members. We perceive these approaches to leadership as “tradeoffs.” In the bringing together of a diverse staff there are large gains in the richness of perspectives brought to the table. At the same time, staff members perceive there is still resistance from staff members to the standards-based approach that they think stems from the diverse backgrounds. Allowing OMS leaders at the district-, area- and school-level to define their own roles has led, in the perception of some, to high levels of commitment and creativity. At the same time, others suggest that this has led to a lack of coordination and focus of the Initiative. And, the placing of the selection of Specialists in the hands of the school principals has led to some unevenness in their quality that has been reported as problematic to Facilitators and Coaches. At the same time, some outstanding Specialists were chosen who would not have been selected if OMS staff had set minimum credentials.

These underlying assumptions and decisions have an effect on the operations and form of the Initiative and recognizing them is an essential aspect of understanding the development of roles in the OMS.

Conclusions & Recommendations

As we step back into the story of leadership development in the Office of Math and Science one year later, much progress has been made. Roles that were undefined a year ago have become more concrete. The focus, goals and underlying beliefs of the elementary initiative have a high degree of acceptance among OMS staff. High quality and ongoing professional development is being offered to teachers who are implementing CMSI curriculum in math and science. Highly skilled Facilitators and Coaches are supporting CMSI Specialists, principals and teachers. A group of OMS staff members are supporting math and science work broadly in the district, through coordination of family and LSC programs, through coordination of science lab materials, through the creation and promotion of after-school and summer school programs, through university-based teacher professional development programs, and through support of science fair. The high school initiative has begun to take shape, as curriculum materials have been chosen and approaches to school support and programming of Double Period Algebra have been targeted for improvement. All of this programming is led by a Lead Team that is devoted and talented. There are, indeed, many accomplishments and advances to celebrate in the Office of Mathematics and Science.

In short, the major barriers to the CMSI that emerged in data analysis focus on issues of program coordination and human resource development. Our recommendations thus focus on these aspects:

Program Coordination

- **Reexamination of programs and resource allocation.** We recommend the revisiting of all of the aspects of the Initiative and all of the roles allocated to them. A facilitated meeting taking an overarching view of the Initiative components, staff roles, and resource allocations may be the best way to examine underlying organizational priorities. A tightening of goals, programs and organization is suggested.

- **Ongoing coordination of all components of the Initiative.** Although OMS staff report an increase in the communication and coordination of the CMSI program components and roles, ongoing monitoring and coordination is necessary. Allocating time and roles to this process is recommended.
- **Coordinating and evaluating the use of human resources.** OMS staff concerns about the allocation of the workload and about the spread of human resources need to be addressed. Is there an uneven workload? Are there staff members who are not on board with the path of the CMSI? How can roles be tightened and defined, both to increase job satisfaction and efficiency?

Human Resource Development

- **Continuing tweaking of role definitions and understandings.** Although OMS staff is clearer about their responsibilities, these are evolving. In addition, the roles of other CMSI leaders (Coaches, Specialists, principals) are less defined which may result in difficulty defining the role of OMS staff. The creation of clear, updated job descriptions for all CMSI leaders, and straight-forward job evaluation and accountability procedures is recommended.
- **The training of CMSI Specialists, Principals and Teachers.** Staff members at OMS recognize that major paradigm shift that CMSI schools must make to fully implement standards-based approaches. They recommend additional training is necessary for CMSI Specialists, Principals and Teachers.
 - **For Specialists:** OMS input into Specialist selection is recommended, as is additional training in curriculum materials.
 - **For Principals:** Training in curriculum materials, that allows principals to utilize and engage in lessons from the student, teacher and Specialist perspective is recommended. The development of observation protocols to assist principals in judging the depth of implementation in their classrooms/school is recommended.
 - **For Teachers:** Providing teachers who are just beginning to implement the standards-based approach need additional training in the process of change, in what to expect as they engage in the process, and in learning to manage the materials and techniques the standards-based approach is based on, according to OMS staff members.

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