

District 31 School District: Final Report

June 2006

**Submitted to
District 31 School District**

**Submitted by
Professional Services Group
Learning Point Associates**



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1181_05/06

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Introduction

This interim report is the result of an audit of the written, taught, and tested curricula of District 31 of the New York State Education Department by Learning Point Associates. In mid-2005, eight school districts and the New York State Education Department (NYSED) commissioned this audit to fulfill an accountability requirement of the No Child Left Behind (NCLB) Act for local education agencies (LEAs) identified as districts in need of corrective action. These LEAs agreed, with the consent of NYSED, to collaborate on the implementation of this audit, which was intended to identify areas of concern and make recommendations to assist districts in their improvement efforts.

The focus of the audit was on English language arts and mathematics curricula for all students, including students with disabilities and English language learners (ELLs). The audit examined curriculum, instruction, assessment, professional development, management, and compliance through multiple lenses of data collection and analysis. These findings acted as a starting point to facilitate conversations in the district in order to identify areas for improvement, probable causes, and ways to generate plans for improvement.

This report contains an outline of the process, data, and methods used as well as the key findings from the data collection and the associated problem statements generated through the cointerpretation process for District 31.

Finally, a recommendations for action planning section provides suggestions as well as more specific advice to consider in the action-planning process. While the recommendations may be considered binding, the specific advice under each area should not be considered binding. Through the remaining action-planning steps, the specific steps for action will be outlined with the district and, upon completion, can be considered a binding plan.

District Background

Overview

District 31 represents the entire New York City borough of Staten Island. Staten Island is one of the five boroughs of New York City, an island at the entrance of New York Harbor. It is located in Richmond County, the southernmost county of the state of New York. As of 2003, the household population is 451,000 people, with families making up 75 percent of Staten Island households.¹ The racial makeup is 76 percent white, 14 percent Hispanic, 11 percent black, 7 percent Asian, 0.5 percent Native American, 0.5 percent Pacific Islander, 6 percent from other races, and 2 percent from two or more races. The median household income is \$58,667.

Data from 2004 indicate that District 31 served 42,308 students, with 1,409 prekindergarten students, 38,888 K–12 students, and 2,011 “ungraded” students. Of those students enrolled, 59 percent were white, 15 percent were black, 19 percent were Hispanic, and 7 percent were Asian, Pacific Islanders, Alaskan Natives, or Native Americans. According to the district, there are 41 elementary schools, 10 middle schools, one elementary through high school, and seven high schools. Data from 2001–02, 2002–03, and 2003–04 school years indicate a steady rate of students eligible for free and reduced-price lunch (37 percent, 38 percent, and 38 percent, respectively). District data also indicate a low but consistent percentage of limited English proficient students (4 percent, 4 percent, and 5 percent, respectively). Special education enrollment during these years, including self-contained classroom students and all other special education students, was 12 percent, 13 percent, and 13 percent, respectively.²

In 2001–02, the district’s average spending per student (direct services only) was \$9,410, while in 2002–03, this amount per student rose to \$10,295.

The state of New York has designated the accountability status of New York City District 31 as a district “In Need of Improvement, Year 3” for mathematics.

¹ Fifty-five percent of households in Staten Island are married couple families, 19 percent are other types of families, 19 percent are single-person households, and 1 percent are other types of households.

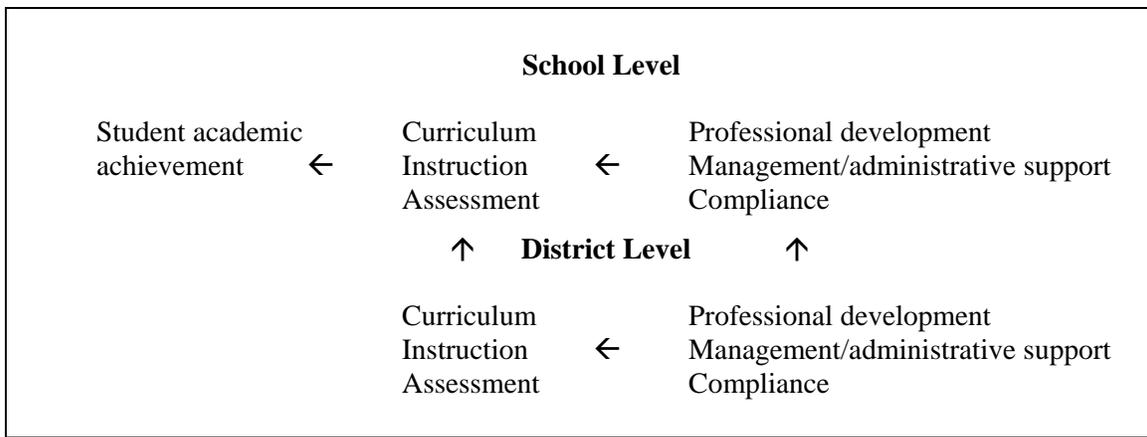
² The data from this section came from the American Community Survey Profile 2003 U.S. Census Bureau narrative report on Staten Island, New York, retrieved March 28, 2006, from <http://www.census.gov/acs/www/Products/Profiles/Single/2003/ACS/Narrative/060/NP06000US3608570915.htm> and from New York City Public Schools 2004–2005 Annual District Report, District 31 retrieved March 28, 2006, from <http://www.nycenet.edu/daa/SchoolReports/05asr/931999.PDF?>

Theory of Action

The theory of action starts from student academic achievement in relation to the New York Learning Standards of the audited districts and their schools. Specifically, student academic achievement outcomes are related directly to curriculum, instruction, and assessment activities within the classroom of each study school. Curriculum, instruction, and assessment at the school level are supported and influenced by professional development, management and administrative support, and compliance at the school level; and by curriculum, instruction, and assessment at the district level. Finally, school-level professional development, management and administrative support, and compliance are supported and influenced by their district-level counterparts.

The theory of action reviewed in the cointerpretation meeting identified that change (i.e., actions needed to improve student achievement) occurs at both the school and the district levels. Therefore, the audit gathered information at both levels. A graphic representation of the Theory of Action dynamic is shown in Figure 1. A more detailed explanation is provided in the Preliminary Report in the Addendum.

Figure 1. Theory of Action



Guiding Questions for the Audit

To address both the needs of individual districts and the requirements of the audit, Learning Point Associates identified the following seven essential questions for the focus of the audit:

1. Are the written, taught, and tested curricula aligned with one another and with state standards?
2. What supports exist for struggling students, and what evidence is there of the success of these opportunities?
3. Are assessment data used to determine program effectiveness and drive instruction?
4. Does classroom instruction maximize the use of research-based strategies?
5. Is the district professional development focused on the appropriate content areas, and are there strategies in place to translate it into effective classroom practice?
6. Do management and administrative structures and processes support student achievement?
7. Is the district in compliance with local, state, and federal mandates and requirements?

Audit Process Overview

The audit process follows four phases, as outlined in the Learning Point Associates proposal application: covisioning, data collection and analysis, cointerpretation of findings, and action planning. This report comes at or near the end of the cointerpretation phase. A description of each phase follows.

Phase 1: Covisioning

The purpose of covisioning is to develop a shared understanding of the theory of action and guiding questions for the audit. Outcomes included agreement on the theory of action and guiding questions, which were included in the Preliminary Report to the district. This phase also included the planning and delivering of communications about the audit to the district's key stakeholders.

Phase 2: Data Collection and Analysis

To conduct this audit, Learning Point Associates examined district issues from multiple angles, gathering a wide range of data and using the guiding questions to focus on factors that affect curriculum, instruction, assessment, management, and compliance. Like the lens of a microscope clicking into place, all of these data sources work together to bring focus and clarity to the main factors contributing to the districts' corrective-action status. Broadly categorized, information sources include student achievement data, the *Surveys of Enacted Curriculum* (SEC), observations of instruction, semistructured individual interviews and focus groups, and analysis of key district documents.

Student Achievement Data

To provide a broad overview of district performance, student achievement data from the New York State Testing Program assessments were analyzed for Grades 4, 8, and 12 for the past three years. This analysis shows aggregate trends in performance with NCLB subgroups.

SEC

To examine whether instruction was aligned to the New York state standards and assessments, teachers in the district completed the SEC. Based on two decades of research funded by the National Science Foundation, the SEC are designed to facilitate the comparison of enacted (taught) curriculum to standards (intended) and assessed curriculum (state tests), using teachers' self-assessments. The data for each content area for each teacher consist of more than 500 responses. The disciplinary topic by cognitive-level matrix is presented in graphic form, which creates a common language for comparison and a common metric to maintain comparison objectivity.

Observations of Instruction

A sample of classrooms in the district was observed using a structured observation system. This observation system was not designed to serve as an evaluation of instruction in the classroom or

a comparison of instruction within and across classrooms, but to record exactly what occurs in the classroom. Observations lasted approximately 45–60 minutes in each classroom during which the observer collected data in 10-minute segments. Observations focused on both student and teacher behaviors as well as particular instructional components.

The data then were analyzed using descriptive statistics in several areas, including classroom demographics, environment, instructional materials, lesson content, purpose, and activities conducted.

Semistructured Individual Interviews and Focus Groups

People who are involved integrally in a district (e.g., students, teachers, district staff) have unique insights into a school system, including its strengths and operational challenges. While data of this type are necessarily subjective—representing the views of the speakers—they are nonetheless highly informative. Rigorously analyzed, these data provide various viewpoints. When this information aligns with more objective information, it can provide rich insights into issues and possible solutions. When this information does not align with more objective information, it can lead to fruitful discussions to identify the cause of the discrepancy.

To tap into stakeholders' perceptions of issues concerning curriculum, instruction, assessment, professional development, management, and compliance, the views of teachers, students, principals, district administrators, service providers, and community leaders were gathered through semistructured interviews and focus groups.

In the data interpretation and reporting process, the emphasis is on common themes and divergent cases to exemplify commonly reported characteristics and challenges occurring in the sampled schools. This process encourages sensitivity to emergent patterns along with irregularities within and across school sites (Delamont, 1992). This process also supports a report that included descriptions rich in context and interpretations, which connected with and extended the district's contextual knowledge about what it perceives as working and not working across its schools.

Analysis of Key District Documents

A district's formal documents (e.g., district improvement plan, professional development plan) demonstrate its official goals and priorities. To identify the priorities and strategies to which the district has committed, a structured analysis of key district documents was completed.

A document review scoring rubric was developed and used to synthesize document information within each of the six strands of the audit (i.e., curriculum, instruction, assessment, professional development, management, compliance). The rubric was designed to measure whether each district document contained sufficient information across each strand. The degree to which each respective document addressed the strand was evaluated by two to three content experts to ensure multiple perspectives during the process. Components of each strand were given a 0–3 rating based on its level of coverage within the document. Once ratings were completed, a consensus meeting was held and a report was generated by all reviewers.

Table 1 lists the key data sources and how they were used by the District 31 to review the district during the cointerpretation process.

Table 1. Alignment of Data Sources With Key Questions

Guiding Questions	Student Achievement Data	Surveys of Enacted Curriculum	Observations of Instruction	Semistructured Individual Interviews and Focus Groups	Analysis of Key District Documents
1. Are the written, taught, and tested curricula aligned with one another and with state standards?	X	X	X	X	X
2. What supports exist for struggling students, and what evidence is there of the success of these opportunities?	X		X	X	X
3. Are assessment data used to determine program effectiveness and drive instruction?	X	X		X	X
4. Does classroom instruction maximize the use of research-based strategies?		X	X	X	X
5. Is the district professional development focused on the appropriate content areas, and are there strategies in place to translate it into effective classroom practice?	X	X	X	X	X
6. Do management and administrative structures and processes support student achievement?	X			X	X
7. Is the district in compliance with local, state, and federal mandates and requirements?	X			X	X

Phase 3: Cointerpretation of Findings

The purpose of cointerpretation is to interpret the data collected, which were grouped into three priority areas: professional development; curriculum, instruction, and assessment; and management and compliance.

The initial cointerpretation had several steps, starting with the interpretation of the data, followed by the development of problem statements, and concluding with the identification of hypotheses specific to each problem statement. These steps occurred in a two-day meeting with key school and district staff. Because this process was critical in identifying the priority areas for district improvement, the detailed approach is outlined here.

Interpretation of the Data

The cointerpretation process began with the study of the individual data reports (i.e., school analysis report, documentation report, achievement report, district interview data, SEC data, compliance and management report [interview, focus groups, and document], classroom observation report) to do the following:

- Identify data and information related to the assigned team priority area (i.e., professional development; curriculum, instruction, assessment; management and compliance).
- Select key data points or messages.
- Categorize or cluster and agree upon the critical data points or messages.
- Identify patterns and trends across reports.
- Present and defend critical data points or messages.
- Respond to clarifying questions.
- Refine and reach consensus on key findings.

In the cointerpretation meeting in District 31, as the three investigative groups (i.e., professional development; curriculum, instruction, and assessment; management and compliance) presented their findings to the whole group, some natural combining and winnowing of results occurred. From various data sources, the participants utilized the method of triangulation to provide support for combining and subsuming some of the findings. The following set of three criteria enabled the participants to examine the prioritized list of findings:

- Does the list respond to the essential questions?
- Does the list respond to the subgroup and content areas identified as not meeting adequate yearly progress (AYP)?
- Does the list capture the most important findings?

From this process, which required considerable thought and discussion, key findings emerged.

Development of Problem Statements

The cointerpretation process continued with the development of problem statements. Teams reviewed the key findings to accomplish the following:

- Generate problem statements by taking the critical data points or messages and identifying problems supported by evidence.
- Prioritize problems using specific criteria, such as those that have the greatest likelihood of increasing student achievement if resolved.
- Reach consensus on the top problems facing the district.

Identification of Hypotheses

Identification of hypotheses occurred next. In this stage, participants performed the following steps:

- Identified a set of hypotheses supported by evidence in the three priority areas for each identified problem.
- Reached consensus on a set of hypotheses for each problem statement.

Phase 4: Action Planning

The last step in the audit process is action planning. This process will result in an action plan focused on the areas identified in the audit. The key actions in the plan will be considered binding recommendations.

The process entails initial goal and strategy setting by a core district team, followed by planning meetings with groups or departments in the district to determine action steps and associated financial implications and timelines for implementation. Once this process is complete, the audit action plan should be aligned with other district plans.

Reference

Delamont, S. (1992). *Fieldwork in educational settings: Methods, pitfalls, and perspectives*. London: Falmer Press.

Key Findings and Problem Statements

As illustrated in the Phase 3 process description, each problem statement was generated through the cointerpretation process. In a facilitated process, groups of district administrators and staff identified key findings across multiple data sets to develop the district problem statements. The key supporting findings and hypotheses for each problem, which also can be mapped back to the original data sets, are included in the data map in Appendix A.

It is important to note that these problem statements and hypotheses may continue to be refined because this is an iterative process. Those included here are the outcomes of the March 21 and 22, 2006, cointerpretation meeting.

After a review of multiple data documents, participants in the cointerpretation meetings in District 31 generated a list of key findings which then led to the following six problem statements. In an attempt to further understand the reasons behind these problems, participants proposed several hypotheses.

Problem Statement 1

While the mathematics curriculum is aligned with the standards, it is not translated into classroom practice.

The Curriculum, Instruction, Assessment and Professional Development Document Review Summary (also referenced as key district documents) reveals that based on the New Standards Performance Standards and the Math Pacing Guides, there is substantial evidence that the District 31 mathematics curriculum is aligned with New York state standards. The key district documents further state that the district's taught curriculum is fully aligned with the written curriculum, based on the written pacing guides; the district's extensive professional development offerings focused on the math curriculum and understanding the state standards; and the many resources provided by mathematics coaches at the school level.

However, the SEC—where teachers had the opportunity to self-report what and how they taught in the classroom—reveals that what is actually taught does differ from the published mathematics standards. Teachers in the early grades deviate from the standards in that they tend to focus on areas that stand alone (e.g., measurement) or are soft on concept but strong on memory (e.g., geometric shapes). Teachers at all levels seemed to cover many subjects and concepts not included in standards for their grade level and/or covered a broad range of material at the expense of a sustained focus on specific concept areas.

The interviews with teachers in District 31 described in the Teacher and Principal Report, further support the statement that the alignment of standards and curriculum is not carried through into classroom practice. Some teachers stated that they could not differentiate instruction, while others felt that the pacing calendar left them little time to reteach or ensure student understanding before moving to the next topic. Teachers also reported that the mathematics coaches are the primary source of mathematics support at the school level, but the quality of that support varies widely depending on the skills of the individual coach. Some schools have not filled the

mathematics coach position at all, and teachers in those schools feel the absence of support acutely. While there are district and regional coaches providing a second level of support, teachers report that they have so many demands on their time that the building-level coach carries most of the burden for supporting teachers in a given school.

Finally, although many teachers and principals spoke of “walkthrough” reviews of classroom teaching, a review of key documents supplied by the district offered no evidence to suggest when or how the district monitors to ensure that the written curriculum is taught systematically throughout the district.

Participants at the cointerpretation suggested a few possible hypotheses for this problem: Some thought there might be insufficient awareness of the state standards at the school level, while others thought teachers might not be sufficiently knowledgeable about mathematics content. Most agreed, however, that the likeliest cause was that District 31 teachers did not know how to design and implement standards-based instruction in mathematics.

Problem Statement 2

While supports for struggling students, including Academic Intervention Services (AIS), are available, there is a lack of consistency and/or expertise in their implementation.

In the Teacher and Principal Management and Compliance Report, several teachers reported needing more classroom support in order to meet the needs of the diverse student population, while one additional teacher noted concern about the lack of intervention programs for students, saying only a limited number of students were served. The key district documents report further notes that while the New York City Department of Education (NYCDOE) provides a list of recommended strategies for teachers to use to actively engage students in learning, there is limited evidence of district policies that support the implementation of these strategies.

Learning Point Associates was not able to compile an extensive review of the supports for students with disabilities since the regional special education director could not be interviewed due to medical leave. However, a review of documents compiled in the report on Programs and Services for Students with Disabilities raises concerns about the limited percentage of students in nonintegrated settings. This statement is supported in an extensive report by Hahir et al. (2005), who found NYCDOE special education programs to be inconsistently implemented and often duplicative. This statement resonated with the District 31 participants in the Curriculum and Instruction group at cointerpretation.

A number of participants at the cointerpretation hypothesized that this situation arises from a poor alignment between school instructional priorities and AIS, a proposal that was further refined in the group’s favored hypothesis that suggested a possible disconnect between district AIS initiatives and individual school initiatives.

Several secondary hypotheses were offered to explain why this might be the case: Some participants suggested there might be a general lack of knowledge around AIS options, or perhaps a lack of a specific district or regional AIS policy (though they noted the NYCDOE has

a blanket policy of 37.5 minutes per day), or even a lack of teacher buy-in supporting the use of AIS. Others participants pointed out that a wide variety of teaching strategies are needed to reach all students, and differentiated instruction is not always defined clearly in context; further, there may be a lack of continuity in terms of professional development addressing AIS, which leads to inconsistent application at the classroom level. Others blamed inconsistent AIS targeting at the school level, noting that some schools do a better job than others. A few thought it possible that AIS and Pupil Personnel Team (PPT) supports are being offered to students, but poor record-keeping means this information is not being collected properly.

Problem Statement 3

The district does not have a policy for analysis of data on all levels to be used to drive instruction.

An analysis of key district documents revealed that District 31 has little evidence to show how the district uses data at the school and classroom level to monitor and adjust classroom instruction; the district also failed to show evidence of data collection to help determine the impact of professional development on instructional quality. As noted in Problem Statement 2, the district also does not appear to provide information on how teachers are held accountable for engaging instruction for all students.

The most popular hypothesis offered by the cointerpretation participants to explain this problem suggested that there is not enough pressure on or support for teachers in terms of analyzing and using student data to drive instruction. Participants also strongly suggested that some administrators do not know how to access information and/or that time is not allotted for sharing and interpreting data.

Less popular hypotheses suggested that teachers and administrators are just “spread too thinly” and that there is insufficient or inadequate professional development at the elementary and middle school level addressing the topic of accessing and managing student data.

Problem Statement 4

The classroom environment, the quality of lessons, and the classroom culture do not support mathematics instruction that actively engages students or is reflective of best practice in mathematics education.

Classroom observations conducted in District 31 at the elementary, middle, and high school level showed that less than half of the mathematics classes were solidly reflective of best practice in lesson design, implementation, or content. A majority of classrooms had a culture that did not support learning for most of the students present. Activities that engage students in an active role in their own learning were observed only infrequently, and a majority of instructors observed did not have a positive impact on their students’ capacity to carry out their own inquiries. Further, in analyzing key documents supplied by the district, Learning Point Associates did not find evidence to suggest when or how the district monitors to ensure that the written curriculum is

actually taught systematically throughout the district and found only limited evidence of district policies on how teachers are held accountable for providing engaging instruction.

Cointerpretation participants hypothesized strongly that this problem arises when teachers are afraid to let go of using the methods they are used to—even if and when those methods do not reflect best practice. Other hypotheses supporting this view suggested that “chalk-and-talk” has been an acceptable method of teaching for the last 30 years, that teachers are not willing to change if it means altering their comfort level, and that there is no common understanding or definition of “quality” or “[classroom] culture.” A similar hypothesis said that local school culture “almost always wins out” over the need to make changes in instructional practice, while a less popular view suggested that perhaps time and structural issues get in the way of implementing best practices.

Problem Statement 5

Professional development in mathematics at the regional, district, and school level does not adequately focus on assisting teachers in their understanding of mathematics content or on current best practices in mathematics pedagogy that provides strategies that translate into effective classroom practice.

A key district document review showed that while needs assessments are conducted to determine where professional development is most needed to improve mathematics instruction and content knowledge, when professional development is delivered it is focused heavily on programs at the expense of proven techniques for teaching mathematics. Further, no evidence was found that data are collected to determine the impact of professional development on instructional quality.

At the cointerpretation, two hypotheses were favored to explain this problem. A number of participants stated that once teachers have a valid state teacher’s license, they are not willing to participate in coursework. They consider themselves to be content specialists already, and they have a comfort level with the teaching methodologies they currently use so may be unwilling or resistant to change. Others hypothesized that while teachers may participate in professional development, not enough time is allotted for reflecting on the implementation of what they have learned.

Less popular hypotheses suggested that there was a lack of alignment between budgeting and instructional planning at the school level, a lopsided focus on literacy instruction in District 31, and a lack of solid and consistent structures and protocols around professional development across the region.

Problem Statement 6

The district lacks a clearly articulated framework or policy with associated indicators and practices that defines the nature of teaching and learning mathematics; it also lacks a system for assessing the degree to which schools are meeting these principles and objectives.

A series of data sources contributed to the development of this problem statement. The District Comprehensive Education Plan, as described in a review of key district documents, contains significant detail regarding English language arts and literacy strategies employed in District 31 but virtually nothing regarding mathematics. Further, as noted in Problem Statement 1, there is no current evidence suggesting when or how the mathematics curriculum is being taught systematically throughout the district. And while the NYCDOE provides recommended strategies for teachers to utilize in engaging students, there is no information at the district level regarding how these strategies are implemented or how teachers are held accountable for instruction.

This issue may be confounded by some confusion regarding the role of the district administration. As reported in the Administrator and Board Interviews, there appears to be some redundancy between and among the Local Instructional Superintendent, the Regional Instructional Superintendent, the Community Superintendent, and the Regional Superintendent as well as considerable tension between the Local Instructional Superintendents and the Regional Operations Center. (One interviewed staff member noted that “The [Regional Operations Center] needs to know what the schools are about.... Finance is making instructional decisions without the knowledge.”)

Two hypotheses were generated at cointerpretation in response to this problem. Some participants suggested that Local Instructional Superintendents may not have expertise in each school level (K–5, 6–8, 9–12). Others thought the problem arose from a lack of follow-up by district personnel to see how things are implemented at the school level.

Reference

Hehir, T., Figueroa, R., Gamm, S., Katzman, L. I., Gruner, A., Karger, J. & Hernandez, J. (2005, September 20). Comprehensive management review and evaluation of special education. Retrieved May 4, 2006, from www.columbia.edu/~kf2119/MysakClinic/FinalHehirReport092005.pdf

Recommendations for Action Planning

In this section, we use the problem statements and key findings—along with research and best practice in literacy and mathematics and teaching students with disabilities and those who are English language learners—to make recommendations for the district’s efforts over the next three years.

The problem statements that arose out of cointerpretation with District 31 led Learning Point Associates to make three recommendations. One addresses the need to improve and augment current support for the implementation of high-quality curriculum and instruction. The second outlines suggested improvements in the design and delivery of professional development for teachers. The third addresses the problems with data analysis and use that surfaced during cointerpretation.

It is important to note that a one-to-one connection between problem statements and recommendations does not exist. Rather, Learning Point Associates has identified the areas we believe to be the most critical for the district. Further, the order of listing does not reflect a ranking or prioritization of the recommendations. For each, we have provided additional information on specific actions the district may consider during the action planning process. The diversity and complexity of each problem statement places limits on the extent to which we can discern its relative impact on the district’s improvement process. For this reason, recommendations are firm, but the associated actions or strategies to implement them should be considered points of reference for consideration.

Recommendation 1

Create policies, plans, and monitoring structures within District 31 to ensure that the mathematics initiative outlined in Children First is implemented. At a minimum, the following specific steps outlined in the initiative should be taken:

- **Ensure that all general education and special education teachers—as well as teachers of students learning English as a second language—are provided with recommended materials and that the materials are used as designed.**
- **Ensure that adequate instructional time each day is used for mathematics instruction.**
- **Ensure that all schools have a full-time, well-trained, and well-supported mathematics coach with specific duties and responsibilities, including ongoing professional development.**
- **Develop a process for monitoring the implementation of the initiative in all district schools.**

Problem Statements 1 and 4 identify a clear need for improved mathematics instruction, focusing both on the alignment to the standards and on the use of high-quality instructional practices in the typical classroom. Children First, the multiyear reform effort initiated by New York City Mayor Michael Bloomberg and New York City Schools Chancellor Joel Klein to improve all of

the New York City Public Schools, defined a series of significant goals for mathematics that include the alignment of instruction to a set of standards-based materials in order to improve the overall quality of mathematics instruction. Core components to this program are at the heart of this recommendation. And while the district has been working toward this implementation, overcoming barriers for a full implementation will be critical for improved mathematics instruction.

A review of key district documents shows substantial evidence that required mathematics instructional materials (Everyday Mathematics [K–5], Impact Mathematics [6–8], and NYC Math A and B [8–12]) are aligned with the New York State standards. The standards-based mathematics programs reflect the six central characteristics of “standards-based” mathematics materials cited by Trafton, Reys, and Wasman (2001) in *Standards-Based Mathematics Curriculum Materials: A Phrase in Search of a Definition*. Standards-based materials (1) are comprehensive, (2) are coherent, (3) develop ideas in depth, (4) promote sense-making, (5) engage students, and (6) motivate learning. Regional professional development offerings for teachers, the school-level mathematics coach position, and other supports are intended to reinforce the use of these materials.

However, SEC results and teacher interviews examined during the audit process and discussed at the cointerpretation indicate that alignment with standards did not guarantee that the standards are being adequately taught and learned in District 31 classrooms (Problem Statement 1). Specifically, teachers at all levels cover concepts not indicated for their grade level or sacrifice sustained focus for broad and shallow coverage of topics. They indicate frustration that instructional pacing guides do not account for individual learning needs. This highlights a need for materials to be used and adapted for all learners, including special education and students learning English.

It is possible that there is a disconnect between what is expected of teachers from the curriculum materials and what teachers know and are comfortable teaching (Stigler & Hiebert, 1999). The National Council of Teachers of Mathematics acknowledges this difference in its *Professional Standards for Teaching Mathematics*:

The kind of teaching envisioned in these standards is significantly different from what many teachers themselves have experienced as students in mathematics classes. Because teachers need time to learn and develop this kind of teaching practice, appropriate and ongoing professional development is crucial. ... For teachers to be able to change their role and the nature of their classroom environment, administrators, supervisors, and parents must expect, encourage, support, and reward the kind of teaching described in this set of standards (NCTM, 2000, pp. 2–3).

The academic success of students in District 31 depends on a high degree of alignment between classroom instruction and state standards in mathematics. In District 31, that alignment can be achieved through the informed and consistent use of the instructional materials referenced earlier. This may require a concentrated effort on the use of these materials with special populations, as differentiation for individual learners has been cited as a current challenge with the materials.

Achieving this alignment will require that change occur not only at the classroom level but at the building and district level as well. “Instructional materials have a particularly important role in making these changes happen for they affect the mathematics the students encounter and how they encounter it, the processes students use, the way teachers teach, and what is assessed. They are also important because of their central place in American education” (Trafton et al., 2001). As Ball and Cohen (1996) noted, “Unlike frameworks, objectives, assessments, and other mechanisms that seek to guide curriculum, instructional materials are concrete and daily. They are the stuff of lessons and units, of what teachers and students do.”

School and district administration need to systemically support the use of these materials and related strategies to ensure that their use becomes institutionalized. This includes ensuring that adequate time is allocated for mathematics instruction on a weekly basis; once teachers are committed to using the instructional materials, they will need sufficient time to implement them.

Another key component of institutionalizing curriculum and instructional processes is job-embedded support for teachers. In this case, Children First includes school-level coaches, a practice that has shown evidence of improving instruction when well implemented. Currently, there is an expectation that every school employ a mathematics coach, but this provision has been unevenly implemented and data gathered indicate that the quality of the school-level coaches who are employed is uneven.

Finally, a clear mathematics framework for instruction with indicators for measuring school-level progress will further support the implementation and monitoring of the mathematics curriculum. Problem Statement 6 directly identifies this as a critical need for moving forward. The monitoring plan must include to whom the teachers and schools are accountable for and what steps will be taken to support schools needing further improvement.

Attaching district actions steps and policy to the Children First initiative provides a significant step in the direction of improved teaching and learning in mathematics.

References

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Recommendation 2

Create structures and processes to improve the knowledge and practice of instruction in mathematics for all teachers through the following ways:

- **Professional development on using a variety of instructional strategies to meet the needs of a diverse population.**
- **Including teachers of special needs and special populations in mathematics professional development at all levels to increase their familiarity with district curriculum and state standards and to enable them to participate in collaborative lesson planning with classroom teachers.**
- **Increasing and encouraging opportunities for teacher collaboration in support of student achievement through, for example, collaborative lesson planning, lesson study, evaluation of student work, and designing modifications based on data gathered and mathematics content understanding.**

Although a considerable amount of professional development is provided for District 31 teachers, classroom observations conducted in District 31 at the elementary, middle, and high school levels indicated that fewer than half of the mathematics classes were solidly reflective of best practice in lesson design, implementation, or content. A majority of classrooms had a culture that did not support learning for the majority of the students present. Activities that engage students in an active role in their own learning were observed only infrequently, and a majority of instructors observed did not have a positive impact on their students' capacity to carry out their own inquiries. For these reasons, in cointerpretation, Problem Statement 5 identified the need for mathematics professional development to be improved. The intent of this recommendation is to have District 31 reexamine its current professional development strategies and increase their effectiveness and their impact on teacher instruction.

Some of the mathematical content of standards-based programs, as well as the contexts in which this content is presented, may be new and unfamiliar to teachers. With lessons framed as challenges, for example, to design efficient floor plans, develop ciphers and codes, or plan for a long journey, the mathematical concepts that drive lessons may not always be apparent. Teachers might need help drawing connections between the activities and the mathematics that motivates them. They may also need help learning to increase their emphasis on engaging students in mathematical processes—reasoning, problem solving, communicating, and making mathematical connections.

Because much of the instruction required with standards-based curricula occurs through interaction in the classroom instead of lectures and individual seatwork, teachers need to be more aware of whether the ideas that students are developing in their explorations and discussions are important and actually worth pursuing. Teachers are called on to think more about how their students' ideas are building toward greater mathematical understanding. In these ways, a coherent and explicit professional development plan that includes multiple opportunities for teachers to learn about, practice, and differentiate mathematical instruction will assist teachers in District 31. This professional development should include teachers of all students.

Critical teacher characteristics are documented by Johnson (2000), who states:

Research consistently documents that four teacher characteristics or actions are critical collectively to the support of effective instruction (Ball, 1990, 1993; Brown and Borko, 1992; Leinhardt and Smith, 1985; Post et al., 1991; Shulman, 1987; Thompson, 1992; Cobb et al., 1991; Little, 1993; Loucks-Horsley, 1994; Mahr, 1988; Shifter and Simon, 1992):

- Teachers need deep understandings of mathematics they teach—concepts, practices, principles, representations, and applications.
- Teachers need a deep understanding of the ways that children learn mathematics.
- Teachers need to implement pedagogies that elicit and build upon students’ thinking about mathematics.
- Teachers need to engage continually in analytic reflection on their practice. (p. 67)

To ensure that these four teacher characteristics become institutionalized in District 31, ongoing professional development is essential for all teachers, including ELL and special education teachers. The professional development opportunities need to be fairly extensive for teachers who are new to standards-based mathematics. These should include the basics (“here’s how the program components work together”) but also should be structured to allow teachers to experience *learning* mathematics while using the curricular materials. More experienced teachers can explore new mathematics content, examine student work, develop quarterly assessments, revise pacing charts, and work with new instructional strategies.

Regardless of the number of years the mathematics curriculum is implemented, there needs to be a plan for addressing the professional development needs of an entire district of teachers who will always be at different stages in the implementation process and addressing their comfort level with both content and pedagogy.

A specific need identified in District 31 is professional development focusing on differentiated instruction. This can assist teachers in meeting the needs of all students in their classrooms (Tomlinson, 1999). With increases in the numbers of students with disabilities and English language learners being included in regular classrooms, professional development related to these topics is imperative for *all* teachers, and the administrators who support them as well. Teachers, administrators, and staff cannot be expected to do what they have not been trained to do (Whitworth, 1999).

Research indicates that the most successful professional development efforts are those that provide regular opportunities for participants to share perspectives and seek solutions to common problems in an atmosphere of collegiality and professional respect (Little, 1982). Collaboration in professional development is especially useful for increasing the capacity to meet the needs of special populations, given that a history of sorting and separating both diverse students and classroom teachers has resulted in very little common ground (Ferguson, n.d.). Classroom teachers are specialists in curriculum; special education teachers are specialists in students with disabilities; and teachers of English as an additional language are specialists in language

acquisition and learning. Each specialist learns skills from the others with all students being the ultimate beneficiaries (Beckman, 2001).

Strategies that serve the needs of at-risk students have been defined by the research to include the following:

- Whole-class instruction that combines constructivist and behaviorist approaches depending on the learning outcomes.
- Cognitively oriented instruction that in mathematics includes a metacognitive strategy of pattern recognition followed by opportunities to test patterns.
- Small-group work focused on mixed-ability grouping with much attention to the basic tenets of cooperative learning.
- Tutoring programs with a strong guiding purpose in order to direct the program tutors in their decision making.
- Highly structured peer tutoring sessions serving basic skills needs where students are carefully instructed in their peer tutoring roles and are monitored closely.
- Computer-assisted instruction (more effective in mathematics than reading or writing), where the role of the teacher is especially significant (Snow, 2003).

General education teachers learning to support the needs of students with disabilities in their classrooms report that the most useful professional development provides them with specific skills that they can immediately use and implement in the classroom. In addition to hands-on skills training, classroom observations and/or videotapes of successfully inclusive classes and situation-specific problem-solving sessions over the course of the school year are key to providing a frame of reference for these teachers (Whitworth, 1999).

Learning new ways of working together and tackling the complexities of teaching in culturally diverse schools takes sustained time, focus, and resources (Clair & Adger, 1999).

Although workshops, individual study, and learning teams are all viable professional development options under certain circumstances, there is considerable agreement that the use of collaborative group work and learning is the most powerful mechanism for developing the professional learning communities needed to support ongoing school improvement (Goldsmith, Mark, & Kantrov, 2000).

In buildings where there is a systemically supported collaborative culture, there is documented evidence of increased content understanding for both teachers and students alike, increased student achievement on a variety of assessment tools, and a change in the building and classroom culture from isolation to that of cooperation and shared learning.

In addition to organized and formal structures for professional development, we recommend that District 31 work to ensure that school, district, and regional leadership support teacher collaboration. Support can be provided in the following ways:

- Help teachers develop images of standards-based instruction by arranging for them to consult with experienced teachers and, if possible, visit their classrooms.
- Establish consistent and frequent grade-level meetings focused on implementation. These meetings provide a venue for teachers to work together, provide support, and learn as a team.
- Schedule common preparation times so teachers can meet regularly to share experiences, plan and debrief lessons, and generally support each other's efforts. Other than actually coteaching, no other formal form of support is as ongoing and as tied to the daily details of the curriculum as regularly preparing lessons together.
- Develop guidelines and/or materials to help teachers talk with parents about the new curriculum. (Goldsmith et al., 2000).

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Recommendation 3

Create and implement a framework that will promote systemic data driven decision making at the district and school levels. This framework should include the following:

- **Guidance for schools that gives specific information and explicit directions on how to use different kinds of school-level data.**
- **Support for data analysis and data-based questioning and hypothesizing through collaborative inquiry.**
- **Professional development that helps participants learn how to analyze data and apply the results.**

Discussion during cointerpretation touched on the data that indicate District 31 provided little evidence of how it uses data at the school level to help teachers monitor and adjust instruction. Other data points revealed that the district appears to do little to evaluate the impact of the professional development it provides and does not use data to monitor the implementation of the district's curricular materials. Several hypotheses were generated to explain this problem (Problem Statement 3), among them the lack of a framework or policy that requires data analysis or an absence of expectations that teachers will analyze and use data to inform instruction.

Research supports systemic use of data and data interpretation as a support for school improvement. Use of data and data interpretation in schools help support and inform decision making at both district and school levels. Therefore, although data interpretation and data use processes have some presence within District 31, it needs to fully implement a systemic approach and support for data use.

A starting point for establishing systemic data use is ensuring that data are easily accessible and that the analysis, interpretation, and questioning of different kinds of school data occur. Bernhardt (1998) identifies these as the Four Lenses of Data: (1) achievement data, (2) demographic data, (3) perceptions data, and (4) program data. Each kind can be used in multiple combinations to uncover patterns and relationships that can guide improvement and influence achievement. While many sources of data often are available, determining which sources to look at and what questions to ask can be challenging.

In examining achievement data, the district should emphasize the review and use of formative assessment data to drive instruction. Research recommends a balance between formative and summative assessments. While summative assessments are frequently used at the district level, the use of formative assessments at the school level can impact both teachers' instructional decisions and student academics and motivation. A balance between formative and summative assessments assists in providing a clear picture of students' achievement levels and progress throughout the year, since "high-stakes data gives us only one piece of evidence about student learning. Well-designed classroom data collection and analysis, the everyday information a

teacher collects, form the backbone of student growth” (Gregory & Kuzmich, 2004, p. 10) A consistent, systemic approach to the use of formative assessments also will translate into more consistent curricular modifications.

Districts also can look at demographic and AYP subgroup patterns in conjunction with achievement data. One critical question that should be posed during this review is: What evidence shows which students are meeting or exceeding our achievement expectations and which are not? (Sargent, 2003).

With regards to recognizing perception patterns in data, the district can use informal inventories, checklists, surveys, parent meetings, and other perceptual qualitative measurement tools. The district and/or schools also can create and then administer surveys for parents, teachers, and other stakeholders on a benchmark basis to gain their perspective as another data source to help inform improvement plans. Perceptions data will help answer the question: What attitudes and behaviors do we observe in our customers that reflect their perceptions about our school(s)? (Sargent, 2003).

Sources of program data can include data reporting on the implementation of new strategies, new initiatives, textbooks, and/or programs before, during, and after school (Bernhardt, 1998). An essential question for programmatic data is “How successful are our programs in bringing about the academic excellence articulated in our standards?” (Sargent, 2003).

Typically when answering this question, the need for an explicit system for screening and diagnostic testing for students in need of academic assistance emerges. These assessments need strong validity and reliability and require coordinated use. Using a range of assessments that identify, diagnose and monitor progress provide important information for teachers of at-risk students (Johnston & Rogers, 2002). We suggest that District 31 pay particular attention to this component of data analysis since issues related to the inconsistent implementation of supports for struggling students emerged during District 31’s cointerpretation. We suggest that the district create an explicit plan, including test selection, to assist schools in ensuring that students who are struggling are identified and that they receive the appropriate intervention services.

Once these processes are in place, the need for systematic collection and analysis of both formative and summative data at the district level can be addressed. A system for monitoring the implementation and results and addressing problems identified through summative and formative assessment is essential.

Once data sources are identified, the district should establish a collaborative inquiry process that supports the use and interpretation of data.

Whatever collaborative inquiry model the district chooses, staff at the district and school level should have the opportunity to review, interpret, question, and make formative plans in response to data as a regular part of grade-level meetings, school staff meetings, and district-level meetings. Engaging with data gives district and school staff an opportunity to identify strengths or to develop data-based hypotheses around areas that need improvement. In an environment of collaborative inquiry, the district will not only identify and collect substantial data to inform

decisions—thereby becoming “data rich”—but will have a process by which they will analyze the data, in collaboration with colleagues and utilize it to ultimately take formative actions, thereby becoming “question rich” (Love, 2002; NCREL 2002).

One collaborative inquiry model to consider involves a six-step recursive process: (1) framing a question around a problem regarding school achievement and /or reform, (2) collecting data, (3) analyzing data, (4) organizing data-driven dialogue, (5) drawing conclusions and taking action, and (6) monitoring results (Love, 2002). Other models also are available.

Finally, data-driven decision making should become an integral part of professional development plans at the district and building levels. Teachers need professional development in order to understand, buy into, and implement a systemic plan for data analysis and data use across the district. Professional development can take place in workshops and group meeting settings. Another way to support teachers in using data is to designate a data analyst(s) who would be available to support schools in data interpretation processes through workshops and collaborative support. The use of a collaborative inquiry model is critical to the success of any professional development in this area.

We further suggest that the district institute a plan to systematically conduct formative evaluations of the professional development that is conducted related to data and data use. This suggestion stems from the cointerpretation process, where data revealed that although there is some evidence that the district evaluates its professional development offerings, “that there is no evidence that professional development is carried back to school sites and is supported by site administration on an ongoing basis” (key district document review). Formative evaluations at the school level can help schools to identify and address roadblocks to the application of what is learned through professional development activities regarding data and data use.

The district and schools can create key objectives for their professional development models and set benchmarks for the attainment of each of these key objectives. As objectives are met, other key objectives can be added to build upon prior proficiencies. As certain key objectives are not met by set benchmark dates, the district can take another look at some of the professional development topics and strategies to determine which strategies are effective and which are less effective.

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Appendix Data Maps

District 31 Cointerpretation Key Findings, Problem Statements and Hypotheses

During the cointerpretation process, participants analyzed 13 individual reports (data sets). Participants identified findings from across the data sets under each of the six strands examined through the audit: curriculum, instruction, professional development, assessment, management, and compliance. Participants worked together to identify which findings were most significant. The key findings were then translated into problem statements. The participants articulated hypotheses on what the root cause of each problem was. The following tables document the results of this cointerpretation process.

Table A1 lists each of the problem statements identified by cointerpretation participants, followed by the hypothesized root causes. The hypotheses followed by a plus sign (+) are those that received enough support to move on in the process. The column to the right of each problem statement indicates the key findings associated with each problem statement. The problem statements appear below under the applicable essential question.

Table A1. Guiding Questions, Problem Statements, and Hypotheses

Guiding Questions, Problem Statements, and Hypotheses	Key Findings
Guiding Question 1: Are the written, taught, and tested curriculum aligned with one another and with state standards?	
Problem Statement 1: While the mathematics curriculum is aligned with the standards, it is not translated into classroom practice.	1, 2, 8, 59
Hypotheses: 1. Insufficient awareness of standards. 2. Not knowledgeable of mathematics content. 3. Teachers do not know how to design and implement standards based instruction in mathematics. +	
Guiding Question 2: What supports exist for struggling students, and what evidence is there of the success of these opportunities?	
Problem Statement 2: While supports for struggling students including AIS and PPT are available, there is a lack of consistency and/or expertise in their implementation.	11, 13, 21, 84

Guiding Questions, Problem Statements, and Hypotheses	Key Findings
<p>Hypotheses:</p> <ol style="list-style-type: none"> 1. Poor alignment between AIS and school instructional priorities. 2. Wide spectrum of teaching strategies are needed. No one clearly defines differentiation in context. 3. Lack of continuity in professional development. 4. Teachers need to buy-in. 5. No district policy (city policy 37.5 minutes). 6. Targeting and narrowing in on AIS is not consistent in all the schools. 7. Disconnect from district initiatives to school initiatives. + 8. Poor record keeping. 9. All staff needs to know about AIS. 	
Guiding Question 3: Is assessment data used to determine program effectiveness and to drive instruction?	
<p>Problem Statement 3: The district does not have a policy for analysis of data on all levels to be used to drive instruction.</p>	37, 85, 87
<p>Hypotheses:</p> <ol style="list-style-type: none"> 1. Not enough pressure and support to analyze and use data. + 2. Time is not allotted for sharing and interpreting data. + 3. People are spread too thin. 4. Administrators do not know how to access information. + 5. Insufficient /inadequate professional development on accessing and managing data in elementary and middle schools. 	
Guiding Question 4: Does classroom instruction maximize the use of research-based strategies?	
<p>Problem Statement 4: The classroom environment, the quality of lessons, and the classroom culture do not support mathematics instruction that actively engages students or is reflective of current best practice in mathematics education.</p>	21, 26, 62
<p>Hypotheses:</p> <ol style="list-style-type: none"> 1. There are time and structural issues. 2. Teachers are comfortable and not willing to change. + 3. Chalk-N-Talk has been an acceptable method of teaching for the last 30 years. + 4. Culture almost always wins out. 5. Teachers are afraid to let go. + 6. There is no common understanding or definition of quality or culture. + 	

Guiding Questions, Problem Statements, and Hypotheses	Key Findings
Guiding Question 5: Is the district professional development focused on the appropriate content areas, and are there strategies in place to translate it into effective classroom practice?	
Problem Statement 5: Professional development in mathematics at the regional, district, and school level does not adequately focus on assisting teachers in their understanding of mathematics content or on current best practices in mathematics pedagogy that provides strategies that translate into effective classroom practice.	87, 88
Hypotheses: <ol style="list-style-type: none"> 1. Once teachers have a valid state teaching license, they are not willing to participate in coursework. The assumption is they are content specialists—comfort level at teaching methodologies. + 2. Alignment of budget and instructional planning at school level. 3. District focus has been literacy. 4. Time is not allotted for reflecting on the implementation of the professional development. + 5. Structures and protocols are not solid or consistent throughout the region. 	21, 30, 34, 37, 74, 84
Guiding Question 6: Do management and administrative structures and processes support increased student achievement?	
Problem Statement 6: The district lacks a clearly articulated framework or policy defining the nature of teaching and learning, associated indicators and practices, and a system for assessing the degree to which schools are meeting these principles and objectives.	
Hypotheses: <ol style="list-style-type: none"> 1. A lack of follow-up. 2. Local Instructional Superintendents may not have expertise in each grade level: K–5, 6–8, 9–12. 	

Table A2 lists the key findings identified by cointerpretation participants. The right-hand column lists the number of participant votes each finding received. *Note:* sc = sufficient consensus.

Table A2. Key Findings

Key Findings	Votes
8. Teachers stated that they could not differentiate instruction. Pacing calendar leaves little time for reteaching. (link to 13)	5
11. AIS and PPT implemented inconsistently.	4
13. Teachers need more classroom support to meet the needs of diverse students. (link to 8)	5

Key Findings	Votes
21. There is limited evidence that the district policy embraced strategies that actively engaged students. (accountability link to 30, 34, 37, 74, & 84)	sc
24. Classroom activities indicate mostly teacher dominated, whole group, textbook/workbook activities from K–12. (link to 59 & 62)	6
30. There is no current evidence suggesting when or how the district monitors that the mathematics curriculum is actually being taught systematically throughout the district. (accountability link to 21, 34, 37, 74, & 84)	sc
34. The district plan has significant detail regarding English language arts and literacy strategies, yet virtually nothing regarding math. (accountability link to 21, 30, 37, 74, & 84)	sc
37. NYCDOE programs refer to progress monitoring assessments, yet there is little information to indicate that such testing is systematic and informative for teachers. (accountability link to 21, 30, 34, 74, & 84)	sc
59. In the classroom, teachers deviate from the math standards in that they: (link to 24 & 62) <ul style="list-style-type: none"> • Cover a broad range of material at the expense of sustained focus on concept areas. • Cover many subjects/concepts not included in the standards for their grade level. • Focus on areas that stand alone (e.g. measurement) or are soft on concept but strong on memory (e.g., geometric shapes). 	3
62. Among classrooms observed: (link to 24 & 59) <ul style="list-style-type: none"> • 23% did not have a classroom environment that supports math instruction or active engagement/collaborative learning. • Activities which engage students in an active role in their own learning were observed only infrequently. • 60% of lessons implemented were not at all, minimally, or only somewhat reflective of best practices. • 63% of lessons were minimally or only somewhat reflective of best practice in lesson design. • 53% exhibited mathematics content that was not at all, minimally, or only somewhat reflective of best practices. • 52% of classrooms had a culture that did not support learning for the majority of the students present. • 64% of instructors did not have a positive impact on student capacity to carry out their own inquiries. 	8
67. In 2003–04, less than 95% of special ed students participated in state assessments at Grade 8.	4
74. Role of district administration is not clear. Perceived separation between Learning Support Centers (LSC) and Regional Operations Center that is inherent in the structure. (accountability link to 21, 30, 34, 37, & 84)	sc
84. Limited evidence of policies to ensure that students are engaged. (accountability link to 21, 30, 34, 37, & 74)	sc
85. Little evidence to show how the district uses data at school and classroom level to monitor and adjust curriculum instruction.	5
87. No evidence of data collection to determine the impact of professional development on instructional quality.	6
88. Professional development in math is heavily on program/strategy and not on content.	4

Table A3 lists all of the findings identified by cointerpretation participants. Findings were pulled from various data sets which are available in the supportive documentation section of this report. The data sets include the following:

- PR—Preliminary Report (Supportive Document A)
- SA—Student Assessment Report (Supportive Document B)
- KDD—Key District Document Review Summary (Supportive Document C)
- SWD—Students With Disabilities (Supportive Document D)
- SLE—Students Learning English (Supportive Document F)
- DS—Key Findings From District Interviews (Supportive Document F)
- TP—Teacher and Principal Report (Supportive Document G)
- PC—Findings From Parent Focus Groups and Community Leaders Focus Group (Supportive Documents H)
- CO—Classroom Observation Data Report (Supportive Document I)
- MC1—Management and Compliance Document Review Summary (Supportive Document J)
- MC2—Management and Compliance Findings from Administrator and Board Interviews (Supportive Document J)
- MC3—Management and Compliance Findings from Principal and Teacher Interviews (Supportive Document J)
- SEC—*Surveys of Enacted Curriculum* Reports for Schools and Districts (Supportive Document L)

The letters indicate which section of the supportive documentation the data set can be found in. An indication of where support for each finding is supported can be seen in the table. The numbers indicate the page number in the original draft where the cointerpretation participants found support for this finding. While multiple drafts mean that these page numbers do not necessarily align with the page numbers on the documents as they exist. They still serve to let the reader know approximately where in the document participants found support for a given finding. The final column in the chart indicates the number of participants who felt that each finding should be included in the key findings. *Note:* sc = sufficient consensus.

Table A3. All Identified Findings

	PR	SA	KDD	SWD	SLE	DS	TP	PC	CO	MC1	MC2	MC3	SEC	Vote
Curriculum and Instruction Group														
Are the written, taught, and tested curriculum aligned with one another and with state standards?														
1. There is substantial evidence that the math curriculum is aligned with state standards.			2, 3											
2. Elementary and MS problems with alignment. • High school feels there is alignment.							4							
3. Mixed feelings about curriculum.								2						
4. Graphs indicate that there is not an alignment.													APP	
5. Curriculum is supported by budget.										5				
6. Math programs are aligned with core curriculum.						2								
What supports exist for struggling students, and what evidence is there of the success of these opportunities?														
7. Specific plans for equal access for all students have not been found.			4											2
8. Teachers stated that they could not differentiate instruction. Pacing calendar leaves little time for reteaching. Shortage of supplies.							4							5
9. Everything appears to be in order.										all	all	all		
10. Did not address needs of those not headed to college.			4											
11. AIS and PPT implemented inconsistently.				10										4
12. Curriculum does not match the needs of all students (diverse students groups, SWDs, ELLs).												8		3
13. Teachers need more classroom support to meet the needs of diverse students.												5		5
14. Teachers and principals identify overcrowding as an obstacle to meeting the needs of all students.												5		

	PR	SA	KDD	SWD	SLE	DS	TP	PC	CO	MC1	MC2	MC3	SEC	Vote
Is assessment data used to determine program effectiveness and to drive instruction?														
15. No evidence that demonstrates district plans, procedures, or policies for diagnostic testing.			9											
16. Little evidence to show how the district uses data at the school and classroom level to monitor and adjust curriculum and instruction is available.			9											4
17. Elementary and middle use informal teacher-made assessments; high school feels they have better access to formal data.						4								2
18. There is little evidence that teachers use information from state tests to inform instruction.						4								4
Does classroom instruction maximize the use of research-based strategies?														
19. Math programs used at ES, MS, HS are all scientifically researched.								2						
20. Shortage of materials and deviation from prescriptive.								2						
21. There is limited evidence that the district policy embraced strategies that actively engaged students.			7											Sc
22. Limited evidence of how teachers are held accountable for providing engaging instruction.			7											3
23. Teacher's priorities in instruction doesn't match state expectations.													All	4
24. Classroom activities indicate mostly teacher dominated, whole group, textbook/workbook activities from K-12.									7					6

	PR	SA	KDD	SWD	SLE	DS	TP	PC	CO	MC1	MC2	MC3	SEC	Vote
Professional Development Group														
25. Parents expressed a desire to understand how student subgroup performance affected CA and how CA affected district.	5													
26. Parents are concerned that parents of students in subgroups do not know what resources are available to support their children, and what they can do to help their children achieve in school.	5													
27. Some parents felt issues in student performance lay at the home level, not the school.	6													
28. District staff may not understand how individual student performance rolls up to affect the district.	6													
29. There is confusion in district schools as to which students should be tested, and which subgroup students are exempt from testing.	6													1
30. There is no current evidence suggesting when or how the district monitors that the mathematics curriculum is actually being taught systematically throughout the district.	11, 12													sc
31. There is little evidence of a districtwide plan of instruction and interventions (with benchmarks and responsibilities) for subgroup students.	11													1
32. Special ed subgroup did not make AYP, yet district plan does not reflect any specialized initiatives to address this issue.	12													1
33. District plan does not contain strategies for targeting improvement in math performance specifically through assessment data.	12													2

	PR	SA	KDD	SWD	SLE	DS	TP	PC	CO	MC1	MC2	MC3	SEC	Vote
34. The district plan has significant detail regarding English language arts and literacy strategies, yet virtually nothing regarding math.	13													sc
35. From 2003–05, Grade 4 black and Hispanic students testing at Levels 3 and 4 increased by 10% in each group.		3												
36. NYCDOE programs refer to progress monitoring assessments, yet there is little information to indicate that such testing is systematic and informative for teachers.			3											
37. NYCDOE provides recommended strategies for teachers, but there is no information regarding how they are implemented at the school level, or how teachers are held accountable for engaging instruction.			7											sc
38. There is no evidence of data collection to determine the impact of professional development on instructional quality.			11											1
39. There is no evidence that professional development is carried back to school sites and is supported by site administrators on an ongoing basis.			11											3
40. District 31 has slightly higher special ed referral rates than the NYC average.				3										
41. District special ed students are placed in most restrictive environments at a rate higher than the NY state or national average.				3, 4										
42. The achievement gap between the SWD and general ed population increased between 2002 and 2004.				5										
43. 48% of the SWDs in district are categorized as LD, and 11% as emotionally disturbed.				6, 7										

	PR	SA	KDD	SWD	SLE	DS	TP	PC	CO	MC1	MC2	MC3	SEC	Vote
44. Minority SWDs are placed in most restrictive environments at a rate higher than white SWDs.				8										
45. Black students are being identified for special ed, and found to be emotionally disturbed, at a rate 3x higher than white, disabled students.				11										1
46. The consistency and effectiveness of early screening, prevention strategies, and prereferral systems to support struggling students prior to referral for special education services is unknown.				10										
47. Nationally, 26% of SWDs spend 20–60% of their day in special ed classrooms. In NY state, that is true for 12% of SWDs. In district: 0%. (In other words, SWDs in D31 spend either less than 20% or more than 60% of their day in special ed classrooms.)				11										
48. Although ELL performance at levels 3 and 4 is increasing, there is still an achievement gap between the general ed and ELL populations.					2									1
49. One administrator thought that the pacing guide for mathematics was an obstacle to effective teaching.						2								
50. District/regional administrators defined curriculum in terms of what textbooks are used, rather than by scope and sequence.						2								
51. At the MS and HS levels, math coaches are often also APs in the school, which impacts on the time they can devote to working with staff on math instruction.						3	4							2

	PR	SA	KDD	SWD	SLE	DS	TP	PC	CO	MC1	MC2	MC3	SEC	Vote
52. Administrators note that professional development in math is heavily focused on math content rather than learning theory, pedagogy, or instructional techniques, and provided only at the introductory level by the publisher.						4								
53. Some elementary and MS teachers have adjusted their approach to the prescriptive curriculum, ranging from minor changes to complete deviation.							3							
54. Teachers mentioned that the pace of instruction does not allow for differentiated instruction.							4							
55. Teachers report that supplies and books are not replenished. The availability of Spanish language texts is an issue.							4							
56. Few teachers mention using state or city assessment data to make decisions in the classrooms. Most elementary and MS teachers referred to informal assessments, assessments they created themselves, or assessments drawn from textbooks to make decisions about reteaching and review.							4							2
57. Administrators feel there are ample PD opportunities for teachers. Teachers thought PD was too general and not geared to real classroom applications. “We have experts lecture us who leave us with no follow-up.”							5			4				
58. Teachers believe that student behavior, attendance, and overcrowding have a negative effect on student achievement.							6							1

	PR	SA	KDD	SWD	SLE	DS	TP	PC	CO	MC1	MC2	MC3	SEC	Vote
<p>59. In the classroom, teachers deviate from the math standards in that they:</p> <ul style="list-style-type: none"> • Cover a broad range of material at the expense of sustained focus on concept areas. • Cover many subjects/concepts not included in the standards for their grade level. • Focus on areas that stand alone (e.g., measurement) or are soft on concept but strong on memory (e.g., geometric shapes). 													A1-A10	3
60. Parents in a school not making AYP complained students were not allowed to bring home textbooks.								3						
61. Parents were concerned about alignment between state tests and coursework/homework/textbooks.								5						
<p>62. Among classrooms observed:</p> <ul style="list-style-type: none"> • 23% did not have a classroom environment that supports math instruction or active engagement/collaborative learning. • Activities that engage students in an active role in their own learning were observed only infrequently. • 60% of lessons implemented were not at all, minimally, or only somewhat reflective of best practices. • 63% of lessons were minimally or only somewhat reflective of best practice in lesson design. • 53% exhibited mathematics content that was not at all, minimally, or only somewhat reflective of best practices. • 52% of classrooms had a culture that did not support learning for the majority of the students present. • 64% of instructors did not have a positive impact on student capacity to carry out their own inquiries. 									4, 7, 8, 10, 12, 14, 15				8	

	PR	SA	KDD	SWD	SLE	DS	TP	PC	CO	MC1	MC2	MC3	SEC	Vote
Management and Compliance/CIA														
63. \$9,000 is spent on general education student. \$33,686 is spent on special ed.				2										
64. In Grades 3, 4, 5, 6, & 7 (city tests), the % of special ed students in level 1 is decreasing. Levels 3 & 4 are increasing.				4										
65. On state assessments, Grade 4 decreases in level 1 and stagnant in levels 3 and 4. In Grade 8, achievement is flat.				5										
66. District 75 student data goes into the home school's data pool.				7										
67. In 2003–04, less than 95% of special ed students participated in state assessments at Grade 8.				5										4
68. Little evidence that special ed policies programs and procedures are regularly evaluated.										2				1
69. Moderate evidence that staff take opportunities to collaborate across content areas.										3				1
70. Little evidence that students are instructed in an aligned curriculum.										4				
71. Little evidence that reliable data supporting student achievement is provided to schools.										1-5				
72. Minimal parent involvement in District 31.											1			
73. Guiding principles of “central,” which articulate the relationship between the district and the principals, have not been made clear to principals.											2			
74. Role of district administration is not clear. Perceived separation between LSC and Regional Operations Center that is inherent in the structure.											2			Sc

	PR	SA	KDD	SWD	SLE	DS	TP	PC	CO	MC1	MC2	MC3	SEC	Vote
75. There is a negative climate in identified (corr. acct.) Title I schools.												2		1
76. Lack of intervention programs for ELL and special ed.												4, 8, 9		2
77. 1/3 of teachers interviewed were unaware of issues that impact compliance.												7, 9		2
78. Concerns that city and state curriculum are not aligned.												9		
79. Document review indicates school assessment team members are focused on both special ed and general ed students.				10										
80. Document review says there is little evidence that English language arts texts are used regularly.			3, 4											
81. Document review does not show evidence that all students have equal access and opportunity.			4											
82. No evidence that the district provides research based instructional strategies in math and ELL.			5											3
83. No evidence that district time out of class is limited.			7											1
84. Limited evidence of policies to ensure that students are engaged.			7											1 (sc)
85. Little evidence to show how the district uses data at school and classroom level to monitor and adjust curriculum instruction.			9											5
86. Limited evidence that demonstrates policies and procedures for diagnostic testing.			9											1
87. No evidence of data collection to determine the impact of PD on instructional quality.			9											6
88. PD in math is heavily on program/strategy and not on content.			11											4

	PR	SA	KDD	SWD	SLE	DS	TP	PC	CO	MC1	MC2	MC3	SEC	Vote
89. Of the total number of students with disabilities who are black, 22% are identified as emotionally disturbed. For white students with disabilities, only 7.5% are identified as emotionally disturbed.				11										2
90. Blacks comprise 15% of general population but they make up 21% of the special ed population.				11										2
91. Upward trend in % of ELL students in Grades 4 and 8 achieving standards in levels 3 and 4 in math.					1									