

THE SYSTEMIC USE OF DATA TO INFORM IMPROVEMENT IN STUDENT
ACHIEVEMENT:
A QUALITATIVE STUDY OF SIX SCHOOL DISTRICTS

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ABSTRACT

The focus of this research is in the area of the use of data to inform instructional and programmatic interventions to improve student achievement. Given the current focus on data-based decision making, most notably highlighted by requirements under the No Child Left Behind (NCLB) legislation of 2002 and the Individuals with Disabilities Act (IDEA) reauthorization of 2005, school leaders are challenged with using data effectively to identify, develop interventions when needed, and monitor student progress. Such a study is important in order to provide more information for educational leaders who seek to improve the systemic use of data to improve student achievement.

The research approach adopted in this study is qualitative. Interviews were conducted with 12 leaders from six school districts over a 45-day period. Districts were selected based on demonstrating three consecutive years of improvement on statewide accountability assessments and their relative level of reported school lunch-eligible students. Four research questions provided further context for this study. The findings of this research provided evidence that systemic use of data is advancing; however, there are many factors inhibiting the speed of implementation. NCLB and IDEA requirements are forcing building-level leaders to work more closely and collaboratively with district leadership on instructional improvement and the use of data to inform that process. Further, that when leaders are respected professionally as knowledgeable within a discipline (e.g., English Language Arts), teachers are more likely to consider data to inform their instructional interventions.

An additional finding was that there are serious limitations existing within currently available data systems, which are inhibiting administrative leaders and teachers in their use of data. Educational leaders also identified the lack of time and resources for staff development for

the appropriate use of data as problematic. Additional resources required, such as data coaches to assist with creating reports and helping teachers interpret the data, were not available to the school districts participating in this study. Time to work with teachers was noted as a difficult impediment, as well. The main conclusion drawn from this study is that systemic use of data to inform instructional improvement is moving slowly forward and will require advances in level of resources, sophistication of data systems, and cooperation amongst teachers, building-level administrators, and district-level instructional leaders to insure effective progress.

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Chapter 1: Data Use for Improved Student Achievement

The purpose of this qualitative exploratory study is to determine the type of information that is being used by districts to inform instructional and programmatic interventions beyond statewide testing data and data from curriculum-based formative assessments. District-wide systemic efforts to use data to improve student achievement have been the focus of a great deal of discussion in K-12 public education. Efforts at systemic improvement have provided some interesting insights into effective systemic reform efforts, as well as the elements associated with their success (Elmore, 2000; Waters, Marzano, Mid-Continent Research for, & Learning, 2006). The No Child Left Behind (NCLB) legislation of 2001 brought a new focus on the use of data in an effort to improve the performance of students progressing through the public education system throughout the United States (Dever & Carlston, 2009). While much of the data currently collected by school districts are used for accountability and management purposes (Means, et al., 2009), how often and how effectively used to proactively identify and intervene to assist student achievement is the subject of ongoing research (Means, et al., 2010).

Importance of this Study

The gap between the use of the research on effective systemic efforts to improve student performance and the limitations experienced by school districts in making use of data, other than summative and formative assessment data to assist in this process, is the primary focus of this research. Many districts are using formative and summative assessment data analysis to inform modifications or changes to instruction and the administration of academic school programs. This research will determine the extent to which other data commonly collected for district and building management requirements are being used to inform school program interventions relative to student success. These additional data represent records of students and their

progress, at regular intervals, through the public school they attend. Use of this data may allow schools to monitor the progress of their students through their public school system as an institution, in addition to their academic progress in the context of skills and associated concepts that are evaluated through summative and formative assessments. Examples of these data include, but are not limited to, attendance, tardy, interim reports, grades, and special education data. In addition, this study will inquire into whether differences exist in the data that are used most effectively to inform programmatic and instructional interventions relative to the level of free school lunch population within those districts being studied.

Research to Date

Prior studies have provided a context for the work of this research. The meta-analysis research of Timothy Waters and Robert Marzano (Waters, et al., 2006) provides insights into the elements of the superintendent led, district-wide school improvement initiatives. Their research identified five key areas where effective superintendents focused and, ultimately, demonstrated success. Those key areas, including “non-negotiable goals for achievement and instruction, monitoring progress on goals for achievement and instruction” (Waters, et al., 2006), will provide a framework for the review of districts participating in this study in terms of their systemic efforts at using data for student performance improvement.

More research on systemic reform by Richard Elmore (2000) suggests that effective reform of public education require leaders to fundamentally change organizations, which have remained relatively unchanged since the 1800s. Elmore (2000) described the de facto condition for schools that has created a very difficult environment to establish district-wide systemic efforts to improve student achievement. He noted that the public school governance structure was not designed for evolving the institution into the demands of a rapidly evolving standards-

based approach to education. More specifically, the division of responsibility had evolved such that district office concerns were primarily governance issues associated with budget development and dealing with issues inside and outside of the institution that were perceived as threats to the status quo. Issues associated with curriculum and instruction have historically evolved to be within the domain of educators. In other words, teachers decided what would be taught and how. In addition, the teachers controlled the professional development systems within their districts deciding, based on their individual perceived needs, what areas they needed to develop. This de facto condition has created a very difficult environment to establish district-wide systemic efforts to improve student achievement (Elmore, 2000). Perhaps without new mandates, the existing system would go on as it has and no substantial progress in systemic efforts to improve student performance through the use of data would occur. The impetus for moving systemic student performance improvement forward would come in the form of NCLB legislation of 2001.

NCLB created a mandate to focus on data-driven decision making. The NCLB-based requirement to provide a great deal of accountability information on student performance, as well as a requirement to use research-based instructional programs and practices, has resulted in a considerable body of research. This research covers a number of issues that include relevancy of the data available, the accessibility of data from electronic systems, and the failure of systems to interoperate (Loran Earl, 2009; Means, et al., 2009; Streifer & Schumann, 2005). Educators and administrators interested in using data sets, such as formative assessment data, are limited because such data sets lack a specific definition and composition. This lack of specific definition and composition causes confusion and the inability to compare data from setting to setting. The quality of data available, as districts struggle to adapt data systems designed for building

management to provide student progress accountability data, has been improving. But, by no means are the data considered consistently reliable (Means, et al., 2009). Much of the data were not consistent in terms of definition or format. Districts were ill-equipped to manage data that were not collected for these purposes and data types (Means, et al., 2010).

Research Questions

This study is intended to add to the body of research on effective systemic reform efforts in the current context of evolving data-driven decision making. In addition, it is intended to inform the development of data systems that could be used by school districts to make the best use of available data to improve student performance. The following research questions are designed to forward those purposes:

1. How are districts using data systemically to advance student performance improvement goals?
2. What data, in addition to summative assessment data, are districts using to inform instructional and programmatic interventions intended to improve student performance goals?
3. Do districts need more and different data than they can currently readily access to assist in programmatic and instructional interventions?
4. Are there different data that are more useful in informing student improvement based on the needs level of the school district?

Definitions

Summative assessment is defined “as a means to gauge, at a particular point in time, student learning relative to content standards” (Garrison, 2010).

Formative assessment is defined as “assessments at regular intervals of a student’s progress, with accompanying feedback in order to help the student’s performance and to provide direction for improvement of a program for individual or class success” (Bernhardt & Geise, 2009).

NCLB is the No Child Left Behind Act of 2001. NCLB amends and reauthorizes the Elementary and Secondary Education Act of 1965. NCLB is an act of congress, which mandates a standards-based education with annual testing requirements and sets standards for school performance that are reported annually.

RTI (Response to Intervention) is the result of the 2005 reauthorization of the United States government’s IDEA (Individuals with Disabilities Education Act). RTI mandates a tiered series of interventions within the regular education environment be used before special education status is conferred on a student. These tiered interventions must be explicitly defined, and the progress monitoring must be data driven.

nySTART (New York State Testing and Accountability Reporting Tool) is a Web-based tool (available at <http://www.nySTART.gov>) used to report data—such as student enrollments and assessments—to authorized school/district account-holders. Users may verify accuracy of data reported in the Student Information Repository System. In this system, they can access standard reports and analyses on certain NYS assessments and accountability measures and view NYS Report Cards for their school/district (available at <http://www.p12.nysed.gov/irs/nystart/>).

Perception data are defined as data, which reflect perceptions of the student learning environment. It is more specifically characterized by data reflecting the values and beliefs of a school, community, and its constituent families (Bernhardt, 2005).

Instructional interventions: A change in the practice of instruction used by the teacher or teachers intended to improve student performance.

Programmatic Changes: These include, but are not limited to, changes to the structure of the school day, length of classes, grouping of students, and assignment of teachers.

Systemic improvement: A district-wide approach to student improvement involving all levels of instructional programs. A focus of this research will be to look for an explicit strategy, which the district used to provide the structure and process for systemic improvement. It is expected that most districts in this study identify with a research-based methodology.

Economically disadvantaged: A student who is a member of a household that meets the income eligibility guidelines for free or reduced-price meals (less than or equal to 185% of the income level for a family of four, identified as a family in poverty by Federal Poverty Guidelines) under the National School Lunch Program (Education, U. D. o. 2004).

Data in addition to formative and summative assessment data: Formative and summative assessment data are generated by using various measures to collect data on student progress toward levels of mastery associated with specific curriculum and standards-based learning goals. This study looked specifically for data that may be collected for management purposes, such as: attendance data, tardy data, interim reporting data, medical data, and discipline data.

Limitations and Delimitations of this Study

The scope of this study was delimited to six school districts. While a wider sample may have been useful, it was not practical from a logistical standpoint. The depth and breadth of the questions associated with this research, as well as the number of interviews required, precluded a larger number of districts. The BOCES (Board of Cooperative Educational Services) region the six districts were selected from has 23 component districts. Districts within the region were

divided into three percentile ranges based on relative level of free lunch eligibility. Two districts from each of the three ranges were selected. Because one research question inquired as to the relationship between data used for programmatic and instructional interventions, it implied a level of significance that the free lunch status of students may be too narrow to define. Namely, that it identified students with the greatest economic need. This may not be an inclusive enough indicator of students with the greatest economic need. All the administrators interviewed for this research concurred in stating that they thought the reported numbers of free lunch-eligible students were significantly lower than the actual number of students with high levels of economic need.

The field research for the study took place over a two-month period of time and included interviews with administrators identified by the school district superintendent. It is not known whether others in these school districts would have responded differently.

Summary

In this chapter, we have discussed the need for more research into the use of data other than summative and formative assessment data to inform programmatic and instructional interventions. We have asserted that such data may be used to assist districts in monitoring the progress of students within their schools as a function of tracking their progress by means of additional data at intervals throughout the school year. We have referenced the need for such monitoring of student progress as being consistent with NCLB and IDEA mandates. Further, a brief overview of the state of research to data on this topic has been provided. Finally, the research questions and a perspective on the limitations and delimitations of this study were reviewed.

Chapter 2: Literature Review

Introduction

The purpose of this chapter is to provide a review of published research to date concerning the use of data to improve student achievement. More specifically, it is a literature review of the use of data other than summative and formative assessment data, to inform programmatic and instructional interventions to improve student achievement.

The following sections provide the structure for this chapter:

- A Mandate to Focus on Data-Driven Decision Making
- Summative and Formative Assessment Data: Use and Limitations
- Access to Data Systems: Teacher Access to Data Systems
- Data Quality Issues
- Beyond Summative and Formative Assessment Data
- Data Mining
- Systemic Use of Data
- Conclusion

The use of data-driven decision making has achieved a very high profile in recent years. This has happened in large part due to the No Child Left Behind (NCLB) legislation of 2001, which requires research-based interventions to improve student performance (Wayman, 2005). Large amounts of data are collected by public schools every day. Some of these data provide assessment information. Yet, other data are collected to provide reporting for school management purposes. While these data are primarily collected for purposes other than student performance and school program improvement, it is increasingly being used to inform such improvement efforts. As much of these data were not collected by systems for this purpose, it

has required a great deal of cleaning, reformatting, and remapping. Perhaps even more importantly, the data's use for purposes other than those for which it was intended may not be appropriate without considerable research to insure its validity for such purposes.

A Mandate to Focus on Data-Driven Decision Making

NCLB legislation of 2001 ushered in a new era of focus on data-driven decision making. This landmark legislation provides direction to schools to provide a standards-based educational system. These standards are to be established by the individual states. Monitoring of student progress is required to be eligible for federal funding. This legislation also requires that students in grades 3-8 be tested annually for both reading and math (Dever & Carlston, 2009). These assessments are intended to be for monitoring the progress of students against grade-level standards for achievement. Also, at least one additional assessment for monitoring students' achievement of standards is required during the high school years. School districts are required to provide a detailed annual report to parents on their student's progress. This report provides parents with information on the progress of their child towards meeting grade-level proficiency in math and English Language Arts according to the state learning standards.

In addition to a number of other provisions, NCLB requires districts to use scientifically based research for the development of educational programs and classroom instruction. Scientifically based research, as referenced under NCLB, suggests that the evidence of successful practices should be based on replicable interventions that have an identified cause/effect relationship (U. D. o. Education, 2002). Similarly, the reauthorization of Individuals with Disabilities Education Act (IDEA) created a requirement for schools to implement a strategy known as *Response to Intervention* or RTI. The tenets of RTI include a methodical process for evaluating student progress based on interventions.

The close progress monitoring and need for a common set of metrics to evaluate progress has increased the focus of the educational institutions on data-driven decision making (Bocala, et al., 2009). Indeed, there are many reasons that data-driven decision making has become such a strong component of education today. A list of such areas of current concern from a recent doctoral dissertation lists the following issues: (a) the overall performance of students within their schools upon state performance assessments, (b) ensuring alignment between mandated and delivered curriculum, (c) guarantee their schools are staffed with highly qualified teachers, (d) testing a minimum number of students in specific sub-groups, and (e) meeting specific benchmark scores by student sub-group” (Dean, 2007).

The emergence of the data-driven decision-making process within the practices of some school administrators happened in response to this external pressure. These requirements had school districts scrambling to provide the data required for the items listed above. The process has been highly resource intensive with much promised and little delivered, as data systems, which were intended to provide information back to districts that could be used to inform school programs, failed to deliver on their promise.

Summative and Formative Assessment Data: Use and Limitations

While the reporting systems have failed to deliver on promises, the districts are still compelled to comply with the requirements of NCLB. Much data are being collected, and district personnel are turning towards this data to assist them in providing information to improve school programs and instructional interventions to assist in student progress and achievement.

Assessment data that had been collected for reporting purposes are in the summative domain. Summative assessments are used to provide a measure that a student (or a school or district) is making appropriately measured progress towards competency required for graduation.

Many states, including New York, use a four-step scale to identify levels of achievement. A major goal is that all students will achieve a level 3 or 4 (on a 1-4 scale) on their annual state exam. This is the NCLB stated goal for all students by 2014 (I. S. B. o. Education, 2002).

In New York State, concern has arisen regarding the scaling of math and ELA assessments. In order to achieve a scaled score of 650, a certain number and category of question responses must correspond to correct responses (Department, N. Y. S. E., 2011). However, a recent review by the New York State Education Department (NYSED) points to substantial disparities existing in the scaling of these tests. A measure of corresponding scores on the national Assessment of Educational Progress (AEP) indicates that NYS exams do not test to a similar level of proficiency (Department, N. Y. S. E. 2010b). Indeed, the degree of equalization between the two sets of assessments has deteriorated significantly over the past 10 years, leaving NYS students with a lower threshold of achievement than would be required to be successful in post-graduate education (beyond K-12). As a result, the NYSED rescaled the exams effective in the 2009-2010 school year (Department, N. Y. S. E. 2010b). Since there is currently no plan to rescale assessments given in prior years, the use of summative data to provide a longitudinal analysis of student progress is seriously compromised by this change in scaling. The data will not be useful in comparing performance in prior years, or over time, because the standard for levels of achievement will have changed.

The use of summative data can be awkwardly applied to making decisions regarding the appropriate educational program and/or instructional strategies for students. Most summative assessments derive their statistical credibility for validity based on a construction of items, which are intended to demonstrate, within the context of broadly defined domains, the degree to which the student demonstrates proficiency. Hess (2009) and Streifer (2005) found that most

summative assessments lack the depth of response to provide a diagnostic/prescriptive analysis. While item maps (questions mapped to the specific concepts and skills they were constructed to assess) provide the ability to disaggregate the data, the question construction does not provide the level of detail required to determine specific skill deficiencies. While the producers of these tests have been clear concerning the design of such assessments, it has not kept people from making detailed inferences based on item responses (Department, N.Y.S.E. 2010a). When reviewing the use of data, it is important to be critical of the context from which the data were collected (Hess, 2009).

The specific relevancy of summative assessment data is one significant limitation to its use in schools. The finding of a United States Department of Education (USDOE) study indicates that, “Neither the type of assessment for which the data are available nor the time frame of assessment activities serves the needs of classroom teachers making decisions on a daily basis” (Means, et al., 2010). A recent Wallace foundation study has found a very weak correlation between the use of assessment data analysis to improve student performance (Louis, 2010). Until the spring of 2010, assessment data in NYS were collected at various times during the school year until the spring of 2010. Exams were given as early as November (Social Studies 5) through the last day of the annual school session in June. In most case, these data were not available to the teachers of those children within the same year they were tested. Often, the data were not provided until beyond the end of the summer, severely limiting its use for staff development or program analysis. The 2006-07 National Educational Technology Trends Survey (NETTS) reported that only 34% of all teachers had spring 2006 standardized test scores for their students in the 06-07 school year (Hamilton, et al., 2009).

A second type of assessment designed to yield different data to be used for different purposes is formative assessment. The use of formative assessment is evolving in the current climate of accountability. While the general concept of formative assessment is not new to the education establishment, a definition of this concept has not authoritatively emerged (Bernhardt, 2004). One definition that goes further than the Bernhardt definition provided earlier identifies the following key factors for formative assessment:

- The provision of effective feedback to pupils.
- The active involvement of students in their own learning.
- Adjusting teaching to take account of the result of assessment.
- RA recognition of the profound influence that assessment has on the motivation and self-esteem of students.
- The need for students to be able to assess themselves and to understand how to improve (Marsh, 2007).

Teachers are struggling with the time required to test students on summative assessments; they lack the time and resources required to analyze and adjust programs and instruction based on the results. Consequently, the level to which formative assessment has been institutionalized has been limited (Marsh, 2007; Means, et al., 2009). Marsh further suggests that in the United States, the attainment of a level of competency is considered more important than the process skills that good formative assessment provides.

Benchmarking assessments have emerged in an effort to provide a view of ongoing progress towards progress on summative assessments. Benchmarking assessments are given at regular intervals throughout the year. These are spaced at intervals throughout the year and are an intermediary assessment providing data on student progress. These differ from formative

assessments in that these tend to provide a broad view of student progress. These do not provide the detail of a formative assessment and are used to mark progress towards state standards (Herman, 2010). However, some research is casting doubt on the reliability of such assessments. Brown and Coughlin (2007) reviewed a number of benchmark assessments and found that while psychometrically valid, the assessments were not reliable predictors of student performance on summative or state exams. The scope of the summative assessments may be too large for any benchmark assessment based on a subset of such skills to be accurately predictive. More simply put, benchmark assessments were too brief in their scope and depth to be accurate predictors of student progress towards achievement on summative assessments (Brown & Coughlin, 2007).

Although expensive and time consuming, the use of formative assessment is growing as is its definition (Bernhardt & Geise, 2009). However, whether the formative assessment model and process that a district uses will reflect a more comprehensive view of learning, as is suggested by Marsh (2007), or simply be a check on progress towards performance on a summative assessment, has not yet been determined. Beyond the concerns of Marsh, there are more fundamental concerns about formative and summative assessments. In fact, there are concerns regarding the very foundations of the epistemology underlying the current model of formative and summative assessment. A debate is emerging that argues that the current model of learning is being evaluated only as a set of outcomes based on standards and not as a series of interrelated processes based on methods of inquiry and knowledge acquisition (Taras, 2009). That is to say, educators are only assessing the student's attainment of knowledge and skills as functions of our effectiveness in teaching the students. Educators are not measuring students' ability to learn without directed processes towards the attainment of defined knowledge and skills.

Clearly, the issues associated with formative and summative assessment are not settled in the minds of researchers and education professionals.

Access to Data Systems: Teacher Access to Data Systems

In a 2007 USDOE NETTS survey, which included responses from over 1000 technology coordinators from across the United States (Bakia, et al., 2008), found that about three-quarters of all teachers surveyed indicated that they had access to electronic student data systems. The report does not provide enough information to conclude that teachers had access to those systems to generate reports or extract data that could be helpful in program analysis or instructional improvement. Since teachers are increasingly using systems to input attendance, tardy, course scores, and interim assessment information, it may well be that teachers are only accessing the system for reporting purposes (Means, et al, 2009). In this same survey, less than 30% of those teachers reported having access to multiyear assessment results for their students in the same survey. It found that, in fact, only 25% of all teachers reported having assessment information for the prior year's assessments for their current students. However, nearly three-quarters of all teachers reported having access to attendance information. This research suggested that teacher access to data systems is more focused on their entry of data for accountability and management purposes than for program or instructional strategies. Further, the report found,

Teachers cited limitations in terms of their data systems, including lack of system operability, cumbersome processes for generating custom reports, and lack of technology at the school level that would support teachers' access to and use of the data system (Means, et al., 2010).

Data Quality Issues

A study completed by USDOE in 2006 (Office of & Secondary Education, 2006) identified serious concerns about the quality of data that school administrators were processing and submitting. The study was intended to provide information on data quality relative to NCLB reporting requirements. The major concerns identified by the study included a lack of system interoperability, data entry errors, and the unavailability of certain data due to failure to have been collected electronically (Achieve, 2006). The report provides guidance for district administrators and Lead Educational Agencies (LEA) to use in providing more reliable and more comprehensive data. The Government Accounting Office (GAO) and the USDOE Inspector General "...have pointed out the consequences that the consequences of poor quality NCLB data can be serious, including the possibility that schools and districts could be erroneously identified as being in need of improvement or corrective action" (The Center for Data Quality, 2006). The improvement noted in data quality over the four years since this study was published indicates that progress is being made towards improving data quality. A 2010 DOE-commissioned study identifies progress in building data system capacity within school districts. The improvement noted in data quality over the five years since this study was published indicates that progress is being made towards improving data quality. Further, the study indicates that teacher access to systems is improving (Means, et al., 2010). However, results of a recent study requesting districts self-report their status indicated that only 65% of the districts responding had confidence that the data in their systems was more than 90% reliable. The study was conducted nationally by the Data Quality Campaign and included responses from all 50 states (Campaign, 2010). While progress is being made, the reliability of data within a longitudinal context (as noted earlier in reference to the rescaling of NYS accountability assessments) must be considered in

any effort to evaluate the use of data for school program improvement or instructional interventions.

As the hurdles of data quality and data access for administrators and educators are being traversed, other key questions arise: How can education professionals be certain that the data they have can be used as relevant information to be used in considering programmatic and instructional interventions? Once access has been provided, educators and researchers are still challenged, as previously demonstrated, with the relationship between the granularity of questions posed on the exam and the respective concepts that are represented by each item to find data that can truly be used as information (Liu & Ruiz, 2008; Means, et al., 2009). Similarly, there remain significant issues to be resolved concerning access to professionals with the understanding of the data systems required to provide contextually meaningful reports. The complexity of the data systems is further complicated by its explicit purpose for existing—managing school programs. This means that mature and well-understood reports available from the systems were developed for purposes other than programmatic and instructional interventions. Making students fit into existing programs and providing progress and supervision information has been the intended goals of these systems. Alongside other criticisms of the “factory model” for education is a recognition of the shortcomings of student management systems designed for managing a school program that is assumed to be effective (Means, et al., 2010; Streifer & Schumann, 2005).

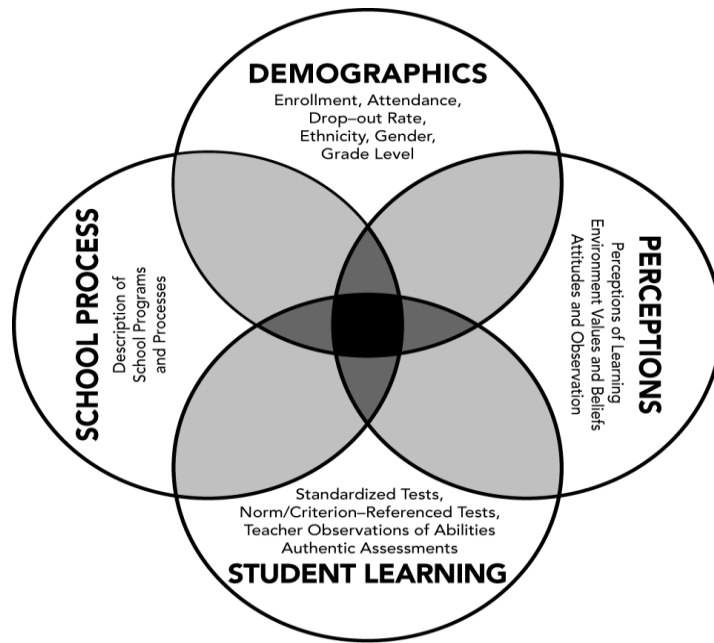
Beyond Summative and Formative Assessment Data

Some state education agencies have been looking at data from a different perspective. Ohio is using a growth metric to assist in determining educational progress and effectiveness. In a growth model, the progress of a student from year to year is measured as a function of their

progress over their growth in performance in previous years. In other words, how much progress within a given level of performance a student achieves is considered his/her growth metric (Chester, 2005). While a growth metric adds an additional measure to evaluation, the source of data continues to be summative assessment data.

There are many other data to assist teachers and administrators in analysis of programmatic and instructional intervention strategies in addition to summative and formative assessments. Many studies have pointed to the need for multiple measures to be used to inform program improvement and instructional interventions (Copland, 2003; Deno, et al., 2009; Streifer & Schumann, 2005). Research indicates that there has been an increase in the variety of data that schools are using (Louis, 2010). Dr. Victoria Bernhardt (2005) argued that the use of student achievement data is too restrictive to provide the information needed to improve student learning. She has identified and defined four domains of data, which she asserts comprises multiple measures, which can be used for school improvement. The figure below provides a graphical representation of those data domains and their converging and intersecting areas:

Figure 1: Graphical representation of four data domains and their converging and intersecting areas as identified and defined by Dr. Victoria Bernhardt (2005) arguing that the use of student achievement data is too restrictive to provide the information needed to improve student learning.



MULTIPLE MEASURES OF DATA (Bernhardt, 2005).

These domains, while not an exclusively definitive series of categories and elements, provide an organization and terminology to assist in discussing the use of data for student achievement improvement, which is increasingly a part of the data-driven decision-making vocabulary. Within the context of this categorization of multiple measures, Bernhardt posits that the only area, which is completely under the control of the schools, is the domain of school process. School process, defined by Bernhardt, "... includes programs, instructional strategies, and classroom practices" (Bernhardt, 2004). There is a substantial intersection between demographics, student learning, and school process information. It is important to note that the other domains contain elements that can be impacted by the school as an institution; however, school process can be developed, implemented, monitored, and adjusted by the school as a matter of policy (Bernhardt, 2009).

While all four areas contain data elements that are both collected by schools and impacted by the school as an institution, the domain of demographics is one which, in addition to

student learning, has data that are widely collected, organized, and systematically stored and reported. However, the extent to which school process data are being collected and correlated with student learning and demographics information through linked electronic data systems is limited. A Wallace Foundation study posits that when data, which provides a richer context for understanding the child and their performance in school, were used, efforts to improve student learning were more likely. A 2010 DOE study reported that, “While districts have the capacity to conduct some types of inquiry, few have electronic data systems that allow them to link outcomes to processes required for continuous improvement” (Kadel, 2010). The pursuit of high quality, multidimensional, and easily accessed data is a highly desirable state for districts to achieve. In addition, the frequency with which the data are refreshed is an important characteristic. Data that are refreshed on a timely basis and include school process-related information are exceptionally helpful. The researcher reports that refreshing data relative to school process-related information on a cycle greater than two weeks may be too late to effect meaningful interventions (Deno, et al., 2009). Many district leaders are finding that the need for data integration amongst many disparate systems is leading them to use external agencies to assist them in the development of systems that can provide timely and meaningful reporting from a wide variety of data types and sources (Villano, 2007).

Agreement on the definition of data types among professionals within a district, even with the help of external agencies that are well versed in data integration, can vary greatly. Chicago public schools are a good example of how difficult this can become. Its former CIO, now chief administrative officer for Chicago City Schools, Robert Runcie, reported that it required six months of discussion and research just to come up with a common definition for the data associated with tardy and absence (Weinstock, 2009).

Data Mining

An area of growing interest for educational institutions are the advances in technology associated with data mining. Data mining is the effort to uncover patterns in data that will lead to information and, perhaps, knowledge. As multiple data systems are being linked together, computer scientists also have begun to search for tools that would help to discover information from that data...and perhaps assist in creating knowledge based on this data. The logical model provided by Bernhardt (2004) is, perhaps, a simplified visual display of the concept of multiple data domains with areas of overlap and convergence; however, as these researchers suggest, the actual process of uncovering relevant and meaningful information from these data is not quite so elegant a task. Traditional analytics cannot easily, nor systematically, handle the complexities of school data to address the queries school leaders have about achievement, annual yearly progress (AYP), and interventions that work.

The goal of data mining is to use all available measures in one analysis to develop a comprehensive and accurate model to predict student achievement by identifying the contributors to that achievement from among myriad historical variables already collected that represent the stored totality of a student's school experience (Streifer & Schumann, 2005).

Data mining tools can range from relatively simple correlational representations of data with some arithmetic and rudimentary statistical functions to much more complex tools with highly sophisticated systems for managing data transfers and complex algorithms developed to uncover patterns in relationships between data.

Lui and Ruiz (2008) developed a data mining strategy to attempt to answer the questions surrounding the predictability of a K-12 student's scores on national assessment items related to a specific area. Their data points were quite diverse, and the specific questions that they

undertook this research to answer were based on Bloom's Taxonomy and the ability to generalize energy-related concepts. Their research looked at data within a given area of academic performance (reading) to make predictions concerning future achievement. They found that some predictions could be made on the future performance of students on national assessments, based on sub test data from elementary assessments.

Streifer and Schumann's (2005) work engaged in a data mining strategy using tools such as IBM's SPSS data modeler and analysis tools. They mined data from a variety of K-6 assessments in an attempt to determine if some data with an applied algorithm could be used to predict comprehension performance on a seventh grade summative exam. Their results were important in that, after deriving a model based on a previous cohort's performance, they were able to predict the performance of subsequent cohorts' performance on the seventh-grade exam using a predictive model applied over previous years' assessments. Upon further investigation into the variables associated with predictability, the researchers noted that school administrators and teachers were not surprised by the findings. The areas of predictive correlation corresponded with developmental growth milestones that teachers had assumed were pivotal for student progress. The researchers expected that, when removing the factors associated with teacher sequence and student demographics and focusing only on the independent variables explicitly assessed by the respective tests, they would have a stronger predictive model. While not specific in their published findings, they did report that their model was not weakened by considering all available data (Streifer & Schumann, 2005).

Systemic Use of Data

Even where data systems exist and a meaningful report can be generated, it may require interpretation and training in its appropriate use. Data analysts or education professionals with

an analyst skill set are often colloquially referred to as data coaches. These data coaches must be available for teachers to not only provide an initial context for the data but also in an ongoing role to assist with reflection on programmatic and instructional interventions. Without such assistance available, teachers do not have the time or the expertise to access or interpret the available data (Hess, 2009; Louis, K., S., Leithwood, Kenneth, Wahlstrom, Kyla, L., Anderson, Stephen, E. 2010; Martin & Taylor, 2009; Means, et al., 2009).

Data systems that provide contextually relevant data linked across multiple domains, coupled with the appropriate resources for staff development, are clearly important elements in any data-driven decision-making process. However, there are additional dimensions that are to be considered in order to provide a better opportunity for success. The work of Timothy Waters and Robert Marzano (Waters, et al., 2006) on superintendent leadership has yielded some interesting and relevant findings. Their findings indicate, among other observations that “effective superintendents focus their efforts on creating goal-orientated districts.” In addition, they found the need for

- collaborative goal setting principals;
- known-negotiable goals for achievement and instruction;
- board alignment with and support of district goals;
- monitoring progress on goals for achievement and instruction; and
- using resources to support the goals for achievement and instruction (Waters, et al., 2006).

Their findings (according to the researchers) concerning building-level autonomy were considered counterintuitive. It had been assumed that building-level autonomy was linked to commitment and teacher satisfaction, which correlated with improved student learning

(Washington, 1993). However, there was not a positive correlation between building autonomy and improved student achievement. Similar findings are corroborated by other studies (Danielian, 2009).

Richard Elmore (2000) takes the argument concerning autonomy and teacher professional development further in stating that the system needs to improve itself relative to the needs of the community of learners it was chartered to support. From this perspective, the needs of the teachers and their professional development are considered and addressed through a process that is first focused first on the need for the system to improve student performance. Teachers' needs are no longer to be considered independently of the needs of the students. The overall strategy for professional development should be system improvement focused on improving student performance according to Elmore.

A Wallace Foundation study published in 2010, reported that the use of data is best supported by district level administrators when they provide the training and resources required to help principals and teachers make the best use of the data. Further, the study found that districts that are classified as high data use districts model the appropriate use of data for their schools.

The perspective that teacher professional development should be planned based on the needs of the students and the goals of the school system is a significant departure from much of the culture surrounding staff development in schools for many years. In a 1993 qualitative study, researchers asked questions concerning the role of building principals in staff development (Washington, 1993). Teachers replied that they viewed their role as largely to be supportive and nondirective. In addition, the majority of teachers and administrators responded that they believed teachers, and not administrators, should determine what topics should be the focus of

staff development. Of some importance was the response to the question of when staff development activities should be offered—after school, weekends, and evenings ranked as least desirable (Washington, 1993). This is important because the teaching day and school year is significantly shorter than it is for other professionals. Therefore, if the existing school year calendar must be used for professional development activities, there will be less time for classroom instruction.

A more in-depth view of the elements of effectively developing a data-driven decision-making model that is integrated district wide is provided by the research of Priscilla Wohlstetter, Amanda Datnow, and Vicki Park (2008). Their research reinforces the need for district-wide personnel and training to assist in data use and management. Further, they identified a number of areas where considerations of the range of administrative authority over instructional practices, as well as motivational incentives for teachers to participate, were considered important elements. This is evident in other research as well (Heritage & Chen, 2005). They also found that “establishing a common language and culture for data use” were reported to be a critical element in moving this systemic staff development forward (Heritage & Chen, 2005; Wohlstetter, Datnow, & Park, 2008). Consistent with the findings of Waters and Marzano (2006) and Elmore (2000) regarding high-level systemic administrative leadership, the researchers reported,

...system leaders created explicit expectations for data use among all school administrators and teachers. In effect, the systems did not choose a single agent at the school site to entrust with data-driven decision-making authority; rather, all school-level administrators and teachers were involved in the ‘data-use contract’ between the system and the school (Wohlstetter, et al., 2008).

Still other research indicates that data use could be promoted more effectively by focusing the dialog on questions deemed essential to answer. The questions can create a powerful context that creates relevancy and value to attending to the data available. Questions such as:

- What are the characteristics of students who achieve proficiency and of those who do not?
- Where are we making the most progress in closing achievement gaps?
- How do absence and mobility affect assessment results?
- How do student grades correlate with state assessment results and other measures (Ronka, Lachat, Slaughter, & Meltzer, 2009)?

Questions that focus on student performance encourage collaboration among educational professionals according to the research. These student performance questions, according to the research, encourage collaboration among education professionals. It also shines much needed light on the need for standardization of assessment protocols and an apples-for-apples discussion of intervention strategies. In the absence of these common questions, the need for such collegial, professional strategies is less evident (Ronka, et al. 2009).

Conclusion

The recent history of research regarding data-driven decision making is replete with opportunities and caveats that cannot be ignored while K-12 education seeks to improve student performance. Lead by NCLB legislation, data-driven decision making has grown to a high level of prominence within the education establishment. The limitation of the legitimate use of data from summative statewide assessments has encouraged the use for more data that can help inform school programs and classroom instructional improvements. While summative statewide

assessments have provided a good deal of data, the limitation of its legitimate use has encouraged the search for more data, which can help inform school program and classroom instructional improvement. The domain of formative assessment, while still being defined, may be very helpful in marking student progress. Research (Bernhardt, 2004) is indicating that multiple measures are required to effectively develop strategies and implement plans to improve student performance. Some advances in data systems' technologies are beginning to incorporate data mining and data modeling with the goal of developing predictive models, which may assist in making programmatic and instructional changes. Further evidence (Elmore, 2000; Waters, et al., 2006) is pointing towards the need for well-coordinated, well-articulated, system-wide approaches to improving student performance in K-12 systems. This research study sought to discover what data are being used and how it is being used systemically to inform changes in school program and classroom instructional changes in schools with differing levels of socio-economic need, as well as schools that are progressing towards NCLB-based student achievement rates at different rates.

Chapter 3: Methodology

Purpose Statement

The purpose of this qualitative exploratory study was to determine the type of information that is used by districts to inform instructional and programmatic interventions beyond statewide testing data and data from curriculum-based formative assessments. Many districts use formative and summative assessment data analysis to inform modifications or changes to instruction and the administration of academic school programs. This research examined the extent to which other data commonly collected for district and building management requirements are being used to inform school program interventions relative to student success.

The chapter is structured as follows:

- Research questions
- Definitions
- Population and Sample
- Data Collection and storage
- Reliability and Validity
- Conclusion

Research Questions

1. How are districts using data systemically to advance student performance improvement goals?
2. What data, in addition to summative assessment data, are districts using to inform instructional and programmatic interventions intended to improve student performance goals?

3. Do districts need more and different data than it can currently readily access to assist in programmatic and instructional interventions?
4. Are there different data that are more useful in informing student improvement based on the needs level of the school district?

Population and Sample

Twelve administrators within six school districts were interviewed. Permission to interview administrators was obtained from the respective district superintendents. The research involved speaking with each administrator in person, explaining the scope of the study as outlined within this document, and an informed consent form provided to each interviewee. All participating administrators signed the informed consent form (see Appendix 2). Each interview was conducted in person.

The research participants consisted of leaders at various levels of school administration: school superintendents, assistant superintendents and directors of curriculum and instruction, building principals, assistant principals, department heads, and teachers. The school districts ranged in size from approximately 1,500 to 11,000 students and were a mix of city, suburban, and rural school districts. School districts were chosen with consideration given to the level of economic need as identified by No Child Left Behind (NCLB) standards. NCLB defines the free and reduced-school lunch status of the students as an indicator of economic need.

The sample was taken from school district-reported percentages of free lunch-eligible students, averaged over a three-year period, within the districts of a New York State Board of Cooperative Educational Services (BOCES) region. Two districts were selected from schools that ranked within each of the following percentiles for percentage of students eligible for free-lunch status: 0-33, 34-66, and 67-100.

Consideration was also given to the rate of student performance improvement as indicated by scores on the New York State accountability exams for grades 3-8 on math and English Language Arts (ELA) and the five required NYS Regents exams. The researcher looked for districts that had progressed at different rates towards the accountability requirement, which states that all students must achieve at level 3 (on a 1-4 scale) on the aforementioned exams. Each district selected demonstrated increases in areas of math and/or ELA scores on the grades 3-8 assessments. Three of the districts also demonstrated increases in graduation rates. The study sought to determine what data are being used and how it was being used to effect programmatic and instructional interventions.

Data Collection and Storage

The interview protocol referenced earlier (Appendix 3) was followed for each interview. Interviewing began, when possible, with the superintendent and progressed through the layers of administration and leadership at each district. A focus was placed on discerning lines of authority and expertise within the districts. Interviews were conducted with those persons in positions of authority, as defined by the superintendent, who had oversight for instructional and programmatic improvement down to the department coordinator (or equivalent) level. An additional focus was to identify data that each district used respectively and for consistency in the understanding and practices for the use of data.

Questions were asked with prompts when required to provide clarity. Notes were taken during the interviews. The interviews were not recorded using audio-electronic recording. A laptop, to which the researcher had exclusive access, was used. Voice and video may have been used in place of same time, same place interviews.

The data were stored in an online repository for which only the researcher held permissions. Names were used during the data collection. Names and locations were not used in the written results. Locations were numbered and persons identified by their district number and position (i.e., Superintendent 1, Elementary Principal 3). Upon completion of the study, the electronic data was deleted by being placed in a recycling bin and then emptied.

Reliability and Validity

The research standard of reliability can be defined, within the context of a qualitative study, as generating results that could be considered consistent with the collected data (Merriam, 1998). This study uses method of triangulation, which consists of gaining multiple perspectives on the same question from a variety of different research participants. Once these perspectives are gained, the researcher looks for common patterns or themes to emerge which provide a framework within which observations can be correlated and from which conclusions can be drawn (Cresswell, 1998).

The questions were constructed with terms commonly used in NCLB-based accountability frameworks. Most of the terms used to define the data elements, as well as the relative value of district and school accountability statistics that are calculated using these data elements, had been standardized. Further, the questions reflected measures and calculations that had been collected and calculated over time. This assisted greatly in providing reliability and validity.

In advance of the interviews, all interviewees were provided an extensive list of terms and definitions used in the interview questions. As part of the interview protocol, the interview began by asking if there were any questions associated with the terms or definitions within the questions. Any questions or concerns that arose were reviewed. The interview proceeded with

the questions in the order that had been delineated in the protocol and prompted only as needed to elicit clear and consistent responses relevant to the research questions. Notes were taken throughout the interviews, careful to comment only for the purposes of clarification. The questions were reviewed by an expert panel consisting of a BOCES assistant superintendent for curriculum and instruction, whose responsibilities include providing school improvement services to component school districts; a BOCES data analyst, responsible for educating and coordinating the collection, reporting, and interpretation of data for NCLB accountability purposes; and a sitting school district superintendent, whose district was not included in the actual study.

Analysis

The analysis began by carefully reading and reflecting on the responses from each interviewee. The responses were then coded, attending to the need to discover themes that may emerge from among the responses. The coding was based on two accepted models. The first was a priori model based on the structure of the research questions, which were designed to narrow the focus of the interviews and further define, as needed with prompts, the nature of the data required. The priori model assumes that data relevant to answering specific research questions will be elicited because of the question being surveyed. The second involved looking for patterns in the political dynamics of interactions between building and district staff (Gibbs, 2005). The information gathered concerning processes for a district-wide, goals-driven process for systemic improvement offered the opportunity to compare district strategies against the systems level leadership research of Marzano and Waters (2006). Their findings indicate, among other observations, that, “effective superintendents focus their efforts on creating goal-orientated districts.” In addition, they found the need for

- collaborative goal setting principals;
- non-negotiable goals for achievement and instruction;
- board alignment with and support of district goals;
- monitor progress on goals for achievement and instruction; and
- use of resources to support the goals for achievement and instruction (Waters, et al., 2006).

In addition to this framework, the research questions provided a context for analysis and understanding in addition to this framework. So, too, did the selection of school districts based on their reported free lunch-eligible population. These questions were designed to create a context for understanding systems-level goal setting, an understanding of the types of data available and currently used, as well as data that are not currently used, and data that may point to different programmatic and instructional interventions based on economic need. Research into effective use of data for school improvement has resulted in a model for data domains which are also used to provide an context for understanding the broad range of data types and classifications (Bernhardt, 2005).

Conclusion

The methods used in this qualitative study were intended to support a process of posing research questions and providing appropriate background and contextual information to the interviewee. This process established a common foundation of knowledge and understanding related to the concepts that the research questions explored. The interview questions were interlaced with prompts, which were used when required to maintain a consistent context for inquiry. The selection of school districts was based on an analysis of the relative percentage of school lunch-eligible population and two years of growth on state assessments as reported by

school districts through statewide required reporting. Data collected, according to a specified protocol, will be destroyed upon completion of the study. Reliability and validity were addressed through the use of triangulation. In addition, all participants were provided with definitions for all terms used in the interview. Much of the terminology was consistent with NCLB and IDEA legislation, and as such, provided additional assurance that the collected data were both reliable and valid. The use of Bernhardt's model (2004) for identifying four domains of data assisted in the reliability and validity, as well. Analysis consisted of a priori questioning followed by coding based on emerging patterns of multiple responses. In addition, the work of Waters and Marzano concerning the effective strategies of goal-oriented district leadership provided a framework for interpreting data relative to the research questions.

Chapter 4: Results

This qualitative study was conducted through a series of interviews conducted over approximately two months. The sample included six school districts, selected based upon two criteria:

1. Demonstrating growth over a three-year period on grades 3-8 ELA and/or math achievement scores on the New York State annual assessments; and
2. Their ranking relative to a three tiered, percentile-based distribution according to their reported free school lunch-eligible population.

Twelve administrators, two from each district respectively, were interviewed using one interview protocol. Common definitions for clarifying terminology were provided, and triangulation was used to determine the validity of the results. The data were also coded using a priori methodology where the research questions provided a structure for organization. In addition, the characteristics of effective superintendents in leading a goals-focused district (Waters, et al., 2006) were used to provide structure for organization and evaluation of data.

Introduction

The purpose of this chapter is to provide a presentation of the data collected in this study. The findings of this study are reported within the context of the research questions and ordered relative to their scope of inquiry to define in increasingly more specific detail how data are used to inform programmatic and instructional interventions. Subsections have been created to provide greater organization and clearer navigation for the reader. The findings begin with an inquiry of explicit district-wide systemic reform goals viewed through the context of the work of Waters and Marzano's (2009) research on leadership responsibilities aligned with system-wide system student improvement. These findings include a discussion of the tension between

district-level leadership and building-level leadership. Issues of loyalty and trust are explored as well. Evidence is presented that demonstrates the effect that mandates are assisting districts in moving towards district-wide goals for student achievement improvement.

The findings proceed next through an inquiry of the types of data being used currently to inform programmatic and instructional interventions, on to an inquiry of other different data which districts may be using, or would like to use, and concluding with an inquiry related to free lunch (economically disadvantaged criteria under No Child Left Behind Act [NCLB] legislation of 2001).

This study of six school districts during the 2010-11 school year provided results that indicate districts are at varying levels of adoption of district-wide goals for systemic improvement of student performance. The use of summative and formative assessment information has been the most highly relied upon data that are currently utilized by districts. Responses to interview questions provided details and insights into the process of instructional and programmatic improvement that are best understood within the context of NCLB requirements and Response to Intervention (RTI) requirements under the Individuals with Disabilities Education Act (IDEA) reauthorization. The growth in the use of data relative to improving instruction as a function of common professional practice was evident as well. The perceived credibility of administrators as knowledgeable instructional leaders by teachers was viewed as important in attempting to address programmatic and instructional interventions. The investigation of subgroup performance and intervention strategies relative to free lunch eligibility were significantly limited in this study because students cannot be identified individually as being free lunch eligible.

Research Questions

This study is intended to address four research questions. Superintendents in each of the six districts participating in this study were asked to identify one administrator, in addition to their self, who could respond to the same interview questions. The responses to interviews from participants were used to provide the data.

Research Question: How are districts using data systemically to advance student performance improvement goals?

The currently available research provides information indicating that some school districts are making progress on developing district-wide systemic student performance-based improvement plans. The research of Waters and Marzano (2009) has identified elements of successful system-wide systemically driven student achievement improvement programs. Defined in terms of leadership responsibilities that correlate with student achievement, they are (a) the goal-setting process, (b) non-negotiable goals for achievement and instruction, (c) board (of education) alignment with and support of district goals, (d) monitoring the goals for achievement and instruction, and (e) use of resources to support the goals for achievement and instruction.

These responsibilities will be used to apply a framework for presenting the responses provided through interviews to the first research question addressed in this study.

Goal Setting

The goal-setting process, according to the work of Waters and Marzano (2009), should engage as many relevant stakeholders as possible. This could include, but is not limited to, district and building-level administrators, teachers, and school board members. The expectation is that the makeup of the goals-setting team represents those stakeholders who are directly responsible for committing resources and providing direction, oversight, and supervision to staff.

All stakeholders may not agree on all goals, but they must agree to support the attainment of these goals (Marzano, 2009, p. 6).

Each of the six districts included in this research had made progress in different areas relative to the Waters and Marzano's (2009) conception of the goal-setting process. The results varied regarding board-level adoption of specific system-wide goals. In five of the six districts, the boards of education (BOE) adopted publically and published their goals on their district website. These goals focus on increasing their student performance goals ranging from specific targets for English Language Arts (ELA), math, and Regents course scores to improving the high school graduation rate. Three of the six districts included their goals for improvement of student performance in the official district newsletter provided to their public. The text below comes from one district website and represents the most explicit district-wide goals for student achievement across grade levels:

ACADEMIC/CURRICULAR/EXTRA CURRICULAR

Overall

- To continue to be in the top 25% ranking in the Capital Region Business Review

Elementary

- To increase the percentages of elementary students scoring in levels 3 and 4
 - ELA 4: 2%
 - Math 4: 2%
 - Science 4: 1%
 - Social Studies 5: 1%

- Increase/improve technology and integrate into instruction
- Review pilot of grade level technology skills. Decide on district-wide benchmarks.
- Literacy/ELA - To implement a major change in the district-wide, multi-year literacy curriculum for the purposes of challenging all students' individual reading levels and achieving the objective of 100% literacy by the end of 3rd grade. Implement literacy plan revised to year 2012.
- Everyday Math – Plan for implementation 2010-2011, but review textbook with modifications to better align with 6-8 curriculum
- Building goals will reflect the data finding from standardized tests scores from New York State Testing and Accountability Reporting Tool (nySTART).

According to the superintendent of this district, their district goals are reviewed annually; however, they constructed these goals such that they do not require substantial annual revision. It further provides the opportunity for buildings' staffs to add individual goals and targets, which can be more operationally focused. None of the district administrators interviewed in this research provided specific interventions and strategies as part of the goals developed and adopted at the district level.

Pushback Against the District Office by Building Level Administrators

Superintendents and district administrative leaders in this study expressed concerns that there are a number of challenges in bringing together the entire district faculty, staff, and administration in the goals-setting process. In fact, for all the districts in this study, involvement in the goals-setting process at the district level was limited in the level of participation. For

example, while none of the collective bargaining units specifically challenged the goals or goals-setting process, neither did they choose to publicize their support for such goals as part of their communication process with the public or their membership. As one superintendent commented,

They aren't warm and they aren't cold (referring to the collective bargaining leadership).

But they are watching every step of this process to make certain they are represented.

Their membership is represented on the committees. They don't seem to want to take a stand as a union. Their power base is in the schools.

A district-level administrator from one of the other districts interviewed for this study provided similar data.

The union is going through the motions. They are very concerned about what this may mean to professional development. They have close control on how professional development is managed in this district. They decide what will be offered and who will provide the training. There isn't much room for district office input. We can develop goals, but what will be offered for training and who will be trained to carry those goals through to implementation isn't on the table.

While the unions are not actively endorsing district-wide goals setting processes, they are not the only party with an interest in their standing. Administrators within the districts are not of a common mind either.

In responding to the call for district-wide goals setting, administrators were mixed in their responses to specific adoption of goals. Building-level administrators tended to be more protective of their building and grade-level goals, as well as their programmatic and instructional intervention options. In three of those districts, there were goals at the building level that were established district wide. These were in response to concerns raised by not meeting NCLB

accountability thresholds. The use of a specific percentage increase in performance on state tests was evident in two districts. In the other districts, the goals-setting process was done by building planning teams. In two of these districts, the targets were process and not outcome related. This means that the building-level planning teams focused on the use of specific formative assessments and instructional assessments, and strategies to provide a consistent building-wide approach to improvement. This provided a common framework for addressing issues, which subsequently resulted in better student achievement. The three districts' leaders from each of the three districts respectively, could not cite a control group or other method for determining the relative effectiveness of these changes on student achievement. As one administrator commented, "We were hoping for better controls to determine the effectiveness of these strategies; however, we did see improvement in student performance in ELA and math overall. It seems to have set the stage for more productive professional practice moving forward." A curriculum administrator from another district commented, "This looks like the start of good professional practice. Hopefully, if we all get on the same page....you know....can have a thoughtful dialog, we can move systemic achievement initiatives forward."

Building-level Autonomy

While superintendents were asked to identify one other administrator within their district to be interviewed, only one superintendent identified a secondary level principal. Four superintendents identified an elementary principal, and one identified an administrator responsible for elementary ELA and math. In all of the districts included in this study, the high school principal and the department heads had a more explicitly powerful position over the goals-setting process than did central office administrators. As one superintendent noted, "The high school can be like a fortress when it comes to academic issues. Department heads are

wary of any effort from the district office to influence their practices.” One department head told me, “Frankly, as soon as this NCLB stuff peters out, you’re going to be on to the next thing, and we’ll be left with these programs and goals that seemed like a great idea, even if they aren’t funded and don’t work.” When responding to the question, “Do you have district-wide goals that target improving student achievement?” one principal responded, “We have building leadership teams. It’s the former shared decision-making team. Achievement goals are delineated and presented to the board of education for adoption.” This only varied when the district had specific accountability issues with subgroup populations and graduation rate. When subgroup performance placed the district either at risk of identification or in need of improvement by NCLB standards, the district administrative staff had direct input into the goal-setting process. As one curriculum and instruction administrator reflected, “Once we became aware that one of our buildings could become a School in Need of Improvement (SINI), it was clear that the building administration realized there would be public repercussions. They understood the need to be on the same team.” And, one superintendent noted,

SINI status is about the building; so, any help they could get from the district became more welcome. It was clear that it was not the district office pointing at the building, but rather the federal government. That got a lot of attention quickly.

In some districts, interviews revealed that senior secondary administrators were more resistant to what one superintendent referred to as “influence from central office staff.” In all but one of the districts participating in this study, each of the administrators recommended by the superintendent for inclusion in the study was also recommended for appointment to their current position by that superintendent. The superintendent of one district, when referring to the school principal who was perceived by district-level leadership as blocking system-wide goals setting

efforts, remarked, “There are deeper issues in this building’s administration than simply setting goals for student achievement.” This superintendent did not expect the issues to be resolved anytime soon.

While interviewing a secondary principal for this study, there were subtle pauses while responding to questions involving goals setting and leadership. When asked to identify the administrator responsible for overseeing the planning and execution of the improvement process, the principal was quick to point out that “general goals were approved by the district administration and BOE, but they were set by the individual building planning teams.” Acknowledging that the superintendent was the lead administrator, he quickly pointed out that “principals are the leaders within the buildings.” This sentiment was expressed explicitly by four of the six participating districts.

Trust and Loyalty

One of the patterns that emerged through this study reflected on the issues of loyalty and trust. Issues of trust and loyalty are taking district administration, as reported within this study, time to work through. One superintendent remarked, while commenting on district-wide goals setting,

You inherit a staff and building leadership. Loyalties are often unclear until there is a conflict. But, many of these people have been together for a long while. I may be the superintendent, but on day-to-day matters, where the rubber meets the road, I guess like everyone else, they are loyal to the people that hired them and have supported them.

One other superintendent noted,

Public education has been around for quite some time and so has much of my staff. They believe they have accomplished much...and they have! I think if I were here for more of the victories over the past 10 years, maybe they would be more trusting and loyal.

While overcoming issues associated with trust and loyalty has been a challenging process, district administrators are making progress in implementing district-wide goals when the issues are a result of federal and state accountability mandates. In two of the districts involved in this research, their low graduation rate was an issue of NCLB accountability. Both of these districts were identified as Schools in Need of Improvement (SINI), as defined under NCLB legislation of 2002. This status requires that schools submit a plan that identifies what strategies will be used to correct the problem. The development of this plan resulted in specific goals being set for one or more school buildings in these districts. Aside from one district, which identified specific measureable goals at various grade levels, all other specific student performance-related goals, which were not directly related to specific required actions imposed by NCLB legislation, were developed at the building level, not the district level.

Two of the districts participating in this study surveyed their parent communities in an effort to gain more information and “buy-in” (as one district administrator termed it). This consisted of prompt and response surveys, which were distributed to the community through hard copy and electronic formats. These surveys will be addressed further as other research questions in this study are explored.

Credible Expertise in Leadership Helps Pave the Way

The movement towards evidence-based, progress monitored, instructional interventions for students was present in all of the districts participating in this study. These movements evolved in different districts from different concerns. In districts with higher free lunch rates, the

remedial programs were fortified with additional instructional resources, including reading and math educators who were highly respected in their respective districts (or at least within the building that was cooperating with the initiatives). When the administrators responsible for these programs responded to interview questions, they did so with specific pedagogical perspectives. As one curriculum administrator reflected, “These are primarily seen as instructional matters, and we need to get on the same page as professionals to effectively address these issues.” The administrator referenced specific research-based instructional intervention strategies and identified both summative and formative data sources that provided critical reference points, which were consistently used to evaluate instructional program effectiveness.

In one district, a highly respected reading instruction professional (and former union leader) had been leading the elementary ELA improvement initiative for many years. She worked closely with the director of curriculum and instruction. In the words of this superintendent, “It was clear that while they differed greatly on matters involving union issues, their common passion for children and reading clearly brought them into a highly effective relationship.” These two professionals forged an alliance that reaped significant benefits for that district in terms of elementary-level ELA systemic improvement.

That particular elementary school was not the only building that benefited from this alliance. The middle school principal who was resistant to change was taken by surprise when staff in his building, based on information provided by elementary teachers who experienced success with their program, effectively requested a similar process in their building. The principal did not interfere in the process; and, when he became aware that his staff in general approved of it, he supported the changes. As a result, the district office gained substantial influence over instructional and programmatic interventions. The middle school experienced

significant success with their implementation. The superintendent reported no adverse effect on her relationship with the middle school principal.

He's old school—just thought their role was to protect the teachers from outside influence. Once he realized he wasn't perceived as weak for allowing cooperation, he was fine with it...he realized that his staff considered the initiative credible and professionally pertinent, not just another flavor of the month new idea....It was good professional teaching practice...and really liked presenting the results to the BOE at the end of the second year.

After two years, the eighth-grade ELA scores improved considerably after a precipitous drop three years earlier.

In another district where the efforts at systemic improvement were being blocked in certain buildings by some teachers and building administrators, a curriculum administrator responsible for district-wide reading coordination managed to gain oversight over reading instruction regardless of the status of the student relative to special needs. As the superintendent noted,

While getting people publically to commit to goals and strategies was difficult and at times overwhelming, we are able to make significant progress by talking amongst ourselves about understanding the data and what good practice looks like. I think our progress is fueled, in part, by the debate over system-wide goals. It's sort of the unspoken 800-pound gorilla in the room. It's really weird to see how this all plays out.

Moving special education and remedial education into alignment was a challenge identified by three of the six districts in this study. While a specific question directed at the question of programmatic and instructional interventions for special education identified students

was not a part of this study, comments were provided by three districts that indicated some level of dissonance between “regular student” intervention programs and strategies and special education identified students. As one administrator commented, “Special education teachers seem to view the improvement process as too basic to meet their needs. I don’t know if they are correct, but their results indicate what they are doing is not the answer either.”

The Challenges of Time and Resources for Staff Development

Another issue associated with a district-wide goals setting process is managing an associated system of appropriate professional resources development. Time and resources were themes that were identified by administrators from all six districts participating in this study.

One superintendent noted,

How can we even begin to have a dialog about systemic improvement when we have less than three staff development days per year? This system was never designed to support the world of change in learning requirements we are experiencing. We joke that we need to be careful what we ask for...we simply don’t have anywhere near the time and resources required to train and implement the system-wide approach to student achievement improvement you (the researcher) are talking about.

Another district level administrator noted,

We know what we need to do, but we are progressing as best we can expect. Students and staff are only in these buildings for less than 190 days a year. The work year is 260 days for most professions. Consider four weeks for vacation and 13 holidays and you still only have 220 days. When will we ever have the advantage of those 37 work days? Can you imagine the progress we could make with 37 days? By the time we are done

with informing teachers and staff about the newest state and federal mandates, we seldom have more than 90 minutes together for anything.

One other administrator remarked,

Can you see how much better prepared we could be if teachers were returning for two or three weeks at the end of the summer. Imagine having the class list of your students for the coming year and access to the teachers who taught them last year. Think about the collaborations and strategies you could develop. Think about all the data you could access and analyze. Maybe someday, but for now...it's three days a year and whatever we can afford for additional days over the summer. The whole faculty and staff need the benefit of additional time...not just a few we can afford to pay over the summer.

None of the administrators interviewed for this study indicated that they had a resolution for these issues that could be easily implemented.

In summary, while the challenges to creating system-wide goals related to instructional and programmatic improvement are considerable, the data from this study indicate these schools are making progress in their use of data to improve student performance.

This study now turns its focus to the various types of data that administrators/teachers are using and how they are using it to improve student performance through programmatic and instructional interventions. .

Research Question: What data, in addition to summative assessment data, are districts using to inform instructional and programmatic interventions intended to improve student performance goals?

The politics of setting district-wide goals for improvement of student performance have presented significant challenges for district-level leadership. However, these are not the only

challenges that schools are facing in the effective use of data. In response to this research question, the focus turns to reporting requirements, reporting data systems, and the limitations associated with these systems, as well as limitations in the use of data associated with statewide assessments. Further, the study will explore how districts are attempting to fill the void created by these limitations.

Summative State Assessment Data and the Frustration of Making it Meaningful

NCLB prescribed that annual testing in New York State consist of a series of assessments in grades 3-8 in the areas of ELA and math. The results from these exams have only recently been provided back to districts in a format and time frame that can be used to inform the development of instructional programs and some staff development. This lack of timely data associated with these assessments has been a chronic issue for many school districts. The data are provided back to districts in a number of formats and contexts. As one administrator noted,

I know we are all supposed to be on the same team...but it's kind of ridiculous. The testing cycle has just changed to reflect a better snapshot of performance; so, that is good. The timeline for returning results to the districts has been terrible. We can't use it to plan for budget...how do you make a program-based case for budget increases if you don't know how you are performing? Provisioning academic intervention services (AIS) for students is a guessing game.

As one other administrator reflected, "Data-driven, research-based interventions are a really good idea...could someone please provide the data in a timely manner so we can get about the rest of our work." In addition to overall scaled scores for assessments, results are provided based on content strand student performance indicator scores, which represent a percentage-based prediction of likely correct responses for that student within subtest areas. New York State

assessments for ELA and math in grades 3-8 consist of subtest areas (three for ELA, and five for math), which correspond to the New York State learning standards. The scores represent broad areas identified by the NYS learning standards. They are provided for purposes of identifying areas of strength and weakness related to student performance relative to the learning standards. The New York State Testing and Accountability Reporting Tool (nySTART) reporting system provides this information in the context of per student/per grade level.

The following is a list of the subtest performance areas:

Table 1

Subtest Performance Areas for English Language Arts and Mathematics

ELA (three subtest areas)		Math (five subtest areas)	
SPI1	Information/Understanding	SPI1	Number Sense/Operations
SPI2	Literary Response & Expression	SPI2	Algebra
SPI3	Critical Analysis & Evaluation	SPI3	Geometry
		SPI4	Measurement
		SPI5	Statistics/Probability

Note: This information is provided from the New York State Testing and Accountability Reporting Tool (nySTART). These areas refer to NYS learning standards associated with these disciplines. The results are calculated based on student responses to questions totaling 100 points.

These broad areas refer to NYS learning standards associated with these disciplines. They are predictively calculated based on student responses to questions totaling 100 points. A curriculum administrator commented, while reflecting on the value of these subtest measures,

It’s just too broad to provide really meaningful information on student skills. From a programmatic point of view, it’s a start; but, it really doesn’t get you much else. You can’t use it directly in the classroom. It’s just not meant for that.

While the lack of depth in reporting results from the state assessments has been a challenge to their effective use, districts administrators had been attempting to look more closely at the results; however, as noted in the next section of this chapter, that has been blocked.

Frustration with Use of Assessment Data Continues to Mount

New York State Education Department reports provide tests scores and standards-related content strand scores to inform instructional program improvement. In addition to the subtest information, each year students in grades 3-8 have results provided on the individual question level relative to the correct response for math and ELA assessments. The position of the NYSED is that these individual question responses do not provide a sufficient level of detail to determine specific areas of need for instructional improvement on the individual student level. In past years, the individual questions from the assessments have been available for districts to review; beginning this year, this will no longer be the case (NYSED, 2011). In four of the six districts participating in this research, administrators voiced concerns over the withholding of questions as they had used them to analyze student errors. A curriculum administrator commented,

That's amazing...withholding the question from data analysts and educators because...? They're answer seems to justify itself within their own world...then they want to evaluate our schools, but create a guessing game when it comes to the curriculum and the questions.

District administrators point at the complexity of the questions and the reading level required to be successful on the test. They have used the questions to identify the style of questioning used to assist in developing question-answering strategies for students. Two administrators interviewed expressed concern that the authenticity of the staff development

provided to teachers to assist them in preparing students for the test will be compromised by not having the prior years' state assessment questions to review.

So, we are given assessments without any truly established curriculum from NYSED...and are told that it is the standard by which we are to be measured. But, as good educators, we know that test preparation includes test strategy and analysis...and we have been effectively precluded from doing what we know is good practice. When students enroll in Kaplan courses to prepare for the ACT or the SAT, they are preparing for a high-stakes exam and spend a great deal of time examining question types and strategies for response....so how credible do we look when we can't even use best practices to prepare for the test?

A clear example of the problems created by the reluctance of the NYSED to provide limited access to the questions used in the assessments is embodied in the use of an analysis tool widely used in districts named Data Mentor.

This tool provided a drill-down view of student responses to the question level. After six years of training and countless staff development activities, one of the districts in this study had every teacher logging into the system. Next year it will be discontinued as the questions that make up the state assessments for math and ELA grades 3-8 will no longer be available. "Talk about a kick in the pants," one administrator commented.

We finally defined the context for assessment analysis and made a link to practice and SED pulls the carpet out from under us by removing access to the questions from the assessments. Analysis of these questions has been central to our process of identifying areas for instructional improvement.

This district has serious concerns about their professional development credibility suffering as a result.

Regardless of the detail of data and information provided by the NYSED back to the districts, all those interviewed for this study acknowledged that it was “too little, too late.” As one administrator put it, “It is little more than a postmortem.” While not specifically addressed as a question in the interview protocol, no one interviewed for this study felt that an examination of the assessments or their subsequent results could provide enough data to formulate the required information to meet the long-term goals. However, as one administrator reflected,

Without specifically saying as much, we know that teachers see the review of the assessment as an opportunity to reaffirm their connection to the curriculum. Frankly, I think for some, the greatest gains have been made by understanding the complexity of questions and reaffirming the required ELA and math concepts and level of understanding required to be successful. It confirms whether what they’ve been teaching is what’s being tested.

The NYSED reports that, while they acknowledge the concern, they will not be reversing their position on the matter (Department, 2010a).

The administrators interviewed for this research commonly agreed that summative assessments alone could not provide the data needed to inform student improvement. They are looking for other resources. The area of formative assessment has been emerging as a leading strategy for getting the information teachers need. A building principal further explained, “Without formative assessment data, there is no way to monitor progress...we are left to simply wait for the autopsy” (referring to the state assessment results). The need for more data than is

available on statewide assessments was uniformly identified by all districts participating in this study.

Formative Assessments, SINI Status, and RTI: A Mandate for the Use of Data

The interviews revealed a number of formative assessments are being used in a variety of different ways to assist in the process of informing student achievement. Five of the six districts in this study identified the Fontes and Pinnell formative assessments as providing instructionally relevant information to assist them in the monitoring and adjusting instruction based on student progress. While Fontes and Pinnell were commonly used for primary grades (K-2), district administrators found the mCLASS:DIBELS (Dynamic Indicators of Basic Early Literacy Skills) assessments to be highly useful. Four of these six districts were also using AimsWeb, a formative assessment for mathematics to provide benchmarking data. Ongoing progress monitoring for mathematics was accomplished through the textbook materials that are part of the schools existing instructional program. Middle schools were using formative assessments for screening purposes, and progress monitoring was limited to benchmarking assessments given three times annually. This screening is consistent with Response to Intervention requirements. Three of the districts in this study were using these benchmarking assessments at two or three points over the course of the year to monitor progress. None had developed the system of progress monitoring for other disciplines as extensively as the elementary levels had for ELA.

For those districts that had schools either classified as a School in Need of Improvement (SINI) or in danger of being identified for such status, the process of developing a plan to address their deficit areas was key to introducing and systematizing the use of formative assessments. As one administrator commented,

Without our SINI status, we could have never gained the focus required and the level of compliance with a plan for systemic use of data. No one would have listened to us...business would have continued just as it had in the past. We knew we not only needed a plan, but a way to monitor progress as well.

Progress monitoring is the primary purpose for using formative assessments (Bernhardt, 2004). In this study, the schools designated as SINI schools were primarily looking to establish progress monitoring. Three of the four districts in this study that did not have schools in need of review developed varying degrees of data use for instructional improvement based on a recognized need for improved, research-based professional practice with progress monitoring as a necessary component of data-driven instructional improvement. An elementary-level administrator commented,

It became clear to the teachers and the administration that we needed to have evidence that we were using data to inform instruction. Otherwise...we couldn't defend our practices...and we didn't want or need any more outside interference. Outsiders won't get it right anyway.

The fourth district in this study, which did not have a SINI status, had explicit achievement goals developed by the school and the district in concert and approved by the board of education. However, the process in the district for developing a strategy for the use of formative assessments was a matter of, as one administrator stated,

Pride in professional practice...we simply didn't like people telling us we could do better if we tried...for those teachers who believed in following research and best practices...the use of formative assessments reaffirmed what they had always known about good teaching.

The reauthorization of IDEA (2004) enabled a new way to provide services to students. Response to Intervention (RTI) is primarily an effort to allow a process, which includes the following components: effective screening, multilevel instructional interventions, and progress monitoring with strong data-driven decision making at its core to assist in providing needed services for students without waiting for a significant performance discrepancy to develop before providing services to students (Intervention, 2010). Under prior federal guidelines, students had to fall far enough behind to warrant the classification as a special education-eligible student before they could receive intervention services. “RTI means we can have serious discussions, on a district level, for addressing how we focus on students as the center of our programs instead of programs at the center of what students have to address their concerns.” Another administrator commented that, “...short of serious (special education) mandate reform, the only way districts can address the needs of all students will be through RTI.”

RTI requires that students be screened for deficits on at least an annual basis. Further, a tiered series of intervention strategies representing successively more intensive interventions must be available to address a student’s needs before any formal classification of the student is considered. One district administrator commented,

Sometimes it seems like the special education services in this district have no desire to change the way they deliver services....by the time a child is identified, they are too far behind to catch up....no one ever really gets out of special ed....hopefully, RTI will help keep them out to begin with.

Administrators interviewed in four of the six districts participating in for this research indicated a strong preference for reforming the identification process for special education services.

Interviews revealed that administrators in each of those four districts expressed the hope that RTI would help them move that goal forward.

Four of the six districts in this study have established criteria consistent with RTI mandates for addressing all students' needs across all elementary schools. Federal mandate requires that these processes be documented and implemented during the 2011-2012 school year. The same measures and similar processes to integrate formative assessment data into improving instructional practice and informing programmatic options are being used in four of the six districts. The districts' tiered interventions consist primarily of a list of criteria used to identify a student for the respective level of intervention and a list of criteria that must be met for the student to exit from that level of intervention. As one administrator commented,

We have had child study teams looking at individual students for many years. However, this opens the door to using special education resources to address learning problems before the student fails. I don't know if we would have developed this level of articulation without RTI requirements. Of course, some are complaining that we have another unfunded mandate...but, using resources for only those students who had already failed was demoralizing for students. So, we will be better for RTI.

This effect and sentiment was expressed by all of the participating districts' administrators to varying degrees as an acknowledgement of the inevitable.

RTI is also seen as impetus for improving professional discourse and practice while incorporating the use of data. "We are hopeful that RTI will actually promote the concept of communities of professional practice," commented one district administrator. Further, the administrator commented, "Getting people to talk to each other about professional practice is one thing—getting them to work in concert with each other based on a common set of intervention

and program strategies is another.” While entry and exit from these tiered levels of intervention are prescribed by RTI guidelines, the selection of instructional programs and intervention strategies can be more broadly approached. Administrators in five of the six districts interviewed for this study provided specific strategies and interventions based on the tier of intervention. Since this is required for RTI compliance, the sixth district will follow the others in the coming year.

Bringing teachers together to discuss RTI was a big benefit. In the past we had broad discussions, and within certain buildings there were really good practices. But, at district-wide meetings, the presentation of these practices began to take on the atmosphere of teachers and administrators trying to ‘one-up’ each other. As soon as you heard someone say, ‘Well at our school, we are doing (fill in the blank)...’ you knew nothing good was really going to come of it. However, at building level meetings the attitude was much more productive and collegial.

The Emergence of More and Different Types of Data

The evidence provided from this research indicates that the uses of various types of data are emerging. Administrators in three of the districts in this study reported having schools that looked at data associated with attendance and discipline, together with formative and summative assessment data, to develop strategies for improving student performance. None of the districts in this study reported having used district-wide criteria for formally identifying students in need of review for intervention based on attendance and discipline events. In each case, building-level criteria was used.

The refresh rate for data associated with attendance and discipline events is a critical component to making the data timely and useful. As a secondary principal emphatically reported,

We need this data in a timely way; no more post-mortem information. Any interval to refresh this type of data that isn't provided on a daily basis just isn't going to help us keep kids from falling off the track.

The refresh rate for this data was not provided to teachers and administrators at consistent intervals for five of the six participating districts. None of the districts in this study provided any refreshing of reporting more frequently than in two week intervals. In the sixth district, the data were updated approximately every four weeks.

While monitoring school specific data needs more reliable and responsive reporting mechanisms, it is also true that more than just school data are being considered.

“Our students have a lot more challenges than just attending school each day.” One administrator speaking with passion on this topic continued,

These state testing results are just more evidence of the obvious for most of us. The challenges of many of the families in this community are overwhelming. I'm surprised that some of these kids have the courage to get up and go to school at all....if you could see the involvement with agencies such as Child Protective Services or the (New York State) Division for Youth, you'd wonder how a child could ever focus enough on learning to be successful. It's pretty hard-hitting stuff.

Criteria for identification for entry and exit from these tiered levels of intervention do include information that differs from formative and summative assessment information. This

information relates more closely to how the student is behaving in response to attitudes towards school or engagement in interventions by programs that are outside the school.

The tracking of students in programs provided by agencies outside the public schools was identified as very important by two of the six districts interviewed for this study. These agencies include, but are not limited to, mental health, drug abuse and addiction, probation/Persons in Need of Supervision, and agencies for the homeless. The challenges of maintaining effective communications with these agencies presented a serious concern and identified explicitly by interviews in three of the districts within this study. A secondary principal noted,

We are often the referring institution, but it is very difficult to maintain effective communications with these organizations. They are overwhelmed themselves and do not have the staffing, communication, or information systems to be as effective as they would like. Unfortunately, the information they provide cannot be widely shared, so it makes it more difficult to put all our teachers in the loop...even if we could do it electronically.

Perception Data's Evolving Role

Perception data are defined as data that reflects perceptions of the student learning environment. It is more specifically characterized by data reflecting the values and beliefs of a school, community, and its constituent families (Bernhardt, 2005). Perception data can be helpful in learning more about the challenges students and their families face.

Two of the districts participating in this research reported using perception survey data from their staff and community to assist in gaining a broader view of influences on student performance. One of the districts had conducted the survey in response to concerns about graduation rate. The superintendent reflected,

We were concerned that we did not know how the community would respond to some of the interventions we were considering. We are a small rural district, and the community has a culture of strong independence. If we expected to have success with students who had not been successful, we needed to understand what the community valued and what they would support. It seemed obvious to some of us, but others had become so insular that they argued against polling the community. I was both surprised and disappointed, but was resolved that we must get the community's opinion. It turned out that they were strongly in support of initiatives that we were considering. It think it really helped once they saw we were implementing those programs...they were supportive...right down to conversations at the local diner. It helped...I'm sure of it.

Another district annually polls parents, students, staff, and community members and uses the information in a variety of forums. Information is first shared with their board of education and then provided to the faculty and staff for consideration. Later it is shared with students and the district in general through its newsletter. Commenting on the value of this data the assistant superintendent for curriculum and instruction remarked:

People have come to look forward to this information; it provides more useful feedback than anyone had originally predicted. We discuss it at the start of the year, and it comes up again in a lot of important discussions. It clearly assists us in helping to develop and build consensus for our programs.

Summary

The findings of this study indicate that the participating districts in this study were primarily focused on the use of data from summative and formative assessments. Since limitations in terms of the frequency of data available from summative state assessments, as well

as delays in the reporting of that data back to school districts limits its functional use, districts are moving forward with formative assessments as a means to delineate specific skill deficits and provide reporting at a more useful interval during the school year. The RTI requirements, which force a proactive process of student screening and ongoing intervention monitoring, have required schools to develop a common framework for assessment and intervention strategies. RTI continues to be a driving force in the use of data to inform instructional and programmatic interventions. In addition, two of the six districts participating in this study are using some perception data from surveys to inform the viability of programmatic options for student. This is the extent to which data are currently being used to inform instructional and programmatic interventions for schools in this study.

Research Question: Do districts need more and different data than they can currently readily access to assist in programmatic and instructional interventions?

In response to the interview questions associated with these research questions, most districts reported suffering from a lack of access to systems that could provide other data in a more meaningful context. As one district administrator noted, “Our student information system can provide more information for us, but you have to dig down too far to get at the reports. These systems are for managing buildings, not leading instruction.” Yet another administrator commented,

There just isn’t any time to work with teachers to help them learn to use the data systems that we have available. We haven’t even had time to train the teachers on how to enter all of the data these systems can help us track.

The issues of time and resources resonated throughout the interviews with each district taking part in this study. One administrator remarked, “Sure, there is probably a lot of data we could be using...but how are we going to get at it? Who is going to help us create meaningful reports that teachers actually want to use?” In response to the question, “Does your district have a data coach or a data coordinator to assist teachers in accessing and interpreting data?” six of six districts said they did not have a staff member dedicated to that purpose, nor did they have a staff member who knew enough about their systems who also had the time to field such requests or inform teachers and administrators as to what was available to them. One superintendent noted,

No way do we have the time or resources for that sort of a position. We are lucky to be able to keep up with the reporting requirements and still provide state assessment results back to the teachers in any format. There is simply no time or money for such a position.

But, if the state finds it in their wisdom to provide for such a position, we are interested!

Even if such a resource data coach or data coordinator were available, most districts expressed concern that teachers do not have the time within their work schedule to be trained on how to read reports.

Our teachers login for attendance, interim, and grade reporting. They check their email daily...well...many do. I’m just not convinced that we can get them to look at reports and make the best use of that information to assist in instructional planning.

Some help may be on the way as administrators in three of the districts interviewed reflected with some optimism that the Race to the Top initiative could provide data coaches from the local Board of Cooperative Educational Services (BOCES). “It looks like a good idea...but the state data system that is to be used for this isn’t ready yet. So, we will see....” All but one of

the districts in this study committed their Race to the Top money to be used by the regional BOCES to provide teams to assist districts in their efforts to improve student achievement.

Two districts within this study are extracting data from their systems and working to provide it in reports using software, which can provide customized reports. A curriculum administrator noted, “The nySTART system just doesn’t organize the data the way we need it. Teachers want to see their classes...not the whole grade or school district.” In addition, these districts are finding the challenge of getting data refreshed at reasonable intervals can be overwhelming. One district attempting to develop its own system expressed frustration. “The data is constantly being updated...on a daily basis....it’s just too much for us to keep up.”

Another district is extracting data and creating “baseball cards” for teachers to have ready access to data relative to their prior year’s attendance, grades, discipline referrals, formative test scores, and two years of state assessments. They try to provide updated information during the course of the year. In addition, teachers are encouraged to use Tinker Plots software, which allows them to quickly and easily add data to charts and graphs to assist them in tracking students’ progress. The software was originally designed for use with students to provide graphical reinforcement of mathematical concepts; however, some teachers and administrators find its simple user interface to have the additional value of developing graphs, charts, and “baseball cards” that present data in a simplified and meaningful context.

In addition to more and different data, districts are also concerned about the interval at which this data is updated and refreshed. “Our systems are tracking information each day, but getting that information in the proper format so that our staff can use it is a real challenge.” The second district using customized software has since abandoned the effort. The school superintendent reflected,

We tried to build what we needed. It just took too much in terms of resources. The farther we investigated, the more it became clear we were in over our heads. It's really frustrating. We are hopeful that the BOCES will find a way to help.

Systems that meet the needs of providing information in a context in which teachers can readily access and use are an issue for school districts. Finding the time and the resources for training and proper implementation of such systems are significant challenges as well. A question that evolves from this inquiry is, "If such systems were available and properly implemented, could different data be useful for different populations of students?"

**Research Question: Are there different data that are more useful
in informing student improvement based on needs levels and/or
performance level of the school district?**

The scope of this research question required that the investigation be limited to the needs level of the school districts. As one administrator noted,

That's kind of a NCLB question. We do see a correlation between student needs and their assessment scores. But, that isn't really what's driving us to look at the student. In most cases, we know our economically disadvantaged students are facing different challenges.

One superintendent reflected for quite some time on the nature of being economically disadvantaged in a rural environment.

Poverty in a rural setting is different. Poverty presents its own set of challenges, but the context matters. I have never believed because a student is poor they will not succeed. I have been in a number of different schools, both urban and suburban. Rural schools have huge geographic challenges. Single mom, without a car, and a substance abuse problem

is too far from help to get it. Distance is too far to travel for help. Visiting services are becoming fewer and fewer. Internet is not available or too expensive. Parents are making the choice between cigarettes and groceries. I'll never be from (district name removed). Culture is hugely different. Resources are simply too challenging to affect the kinds of intervention programs that are a part of urban and suburban districts.

The perspective of the urban districts (which comprise the highest percentage of free lunch eligible students in this study) was somewhat different.

These kids are showing up here with virtually nothing. We provide a breakfast program and lunch...might be the only two meals they get in a day. We are in a triangle of three urban school districts, and the students are highly transient between these districts. It often depends upon which adult in their world is currently the most stable or highest functioning. It might be mom this month, living in (redacted districts name) because she has it together...and next month, the child is living with their father's mother (grandmother) because neither parent can provide a stable, responsible, safe environment for this child. Unless you practice as a professional in this environment, you have no idea just how challenging it really is for many of these students to make it to school each day. Sure, there are lots of intervention services, but these kids drop off the face of the earth for a while and no one knows where they were. They re-emerge...hopefully unharmed...and we go back at it with them again.

Each district acknowledged that the population of free school lunch students had, at various times, a greater percentage of students as non-completers. However, only one district had an accountability issue with graduation rate based on NCLB guidelines for the current year. The graduation rate accountability issue applied to all students, not just the free lunch-eligible

population. Further, that while in each case there was some variation in performance on student scoring, they believed that there was a correlation associated with student performance and free lunch status, not causality. In the words of one administrator,

We are not surprised to find that students who have so few resources available to them are less likely to score well on assessments or complete public education with a diploma. But, you can't buy a higher score on the assessment. These students aren't unable to pass these assessments...they just have too many distractions...too many issues. If you look at the additional services these students are receiving, you will be in the same quandary. They may point to challenges that can be overwhelming for a student, leaving them unable to concentrate or focus. They can miss a lot of school or often be shifted between schools. Even our teachers don't like to work in multiple buildings and say it effects their quality of work....imagine what that is like for a child....no one factor can be identified as being attributable to student success or failure. Free lunch eligibility is an indicator of students' challenges, not abilities.

The reported percentage of students identified as economically disadvantaged is of some concern amongst many of the administrators interviewed in this study. "A lot of these kids have parents who are too proud to sign up for a government-subsidized school lunch program." And, another administrator commented on levels of students reporting on the secondary level versus the elementary and middle school years.

We've seen this for years. Students make the transition to middle school and for the first year or two, they, or their parents, return their forms...but then, over time, they just stop turning in the forms. It's really hard to talk to them about it. We have kids in the

elementary school, at the same address, and with the same parents, who are counted as a free lunch eligible student, and their sibling in the high school is not...how can that be?

None of the six districts that participated in this research identified specific data that they used to assist them in programmatic or instructional interventions to assist economically

disadvantaged students in improving their results. As one administrator reflected on the topic,

The question is just not how we look at our students. We can't even know if a student is specifically identified as economically disadvantaged. That's confidential information, so we really can't answer the question...from an intervention point of view, we can't even ask it.

The identification of a student as economically disadvantaged by NCLB standards has not been embraced by districts in this study as a discreet distinction for remediation or explicit action.

Clearly, a restriction on the accessibility of such information about individual students makes that more challenging. Districts identified their focus for data gathering and data use on student performance, not economic standing.

Conclusion

System-wide improvement plans are in varying states of adoption across the districts participating in this research. There are issues associated with the traditional scope of authority exercised by central administration. High school administration, faculty, and staff are the most reticent about adopting central office- driven intervention and processes. Building leaders on all levels were more engaged in a system-wide process when they were appointed by the currently serving superintendent. Summative and formative data are currently the most completely embraced, understood, and referenced data for instructional and programmatic improvement of student performance, as reported by districts participating in this study. As federal mandates

associated with IDEA reauthorization and NCLB requirements have emerged, a more systemic approach to a data-driven model for student performance improvement is evolving. Districts in this study are reporting that they are not yet fully developed in their professional practices in terms of the effective use of data within the context of the disciplines, and as such, have not formalized the use of other data types (such as student process data) to inform programmatic and instructional interventions. Further, the electronic systems that are currently provided do not meet the needs that teachers and administrators have for providing timely and easily accessed information to reflect data within the student process domain. The use of perception data is emerging in some districts and has been used to inform district-wide intervention strategies in two districts in this study. Data associated with free lunch eligibility is not used to focus intervention strategies as that information about individual students is prohibited from being revealed.

Chapter 5: Summary of Findings, Conclusions, and Recommendations

The uses of data to inform programmatic and instructional interventions for the purpose of improving student performance have gained a great deal of focus over the past decade. This chapter will include the implications for system-level leaders and provide recommendations for further research.

Research Question: How are districts using data systemically to advance student performance improvement goals?

Each of the district and building leaders interviewed for this research reported a number of challenges associated with system-level efforts to use data to improve student performance. Because the data required to inform student progress systemically must be provided (e.g. student management systems, special education management systems, school lunch systems, etc.), the systems required for these purposes were identified by the interviewees as a subject of this research. The findings provide a dynamic perspective on the internal and external factors applying seemingly opposing forces to the process of systemic use of data.

Finding

Data systems must evolve to become more relevant and useful for use in improving student performance.

There are a variety of issues facing the systemic use of data by school districts to advance student performance improvement goals. One major issue facing districts lies in the electronic systems available for their inquiry. The data collection and reporting process that provides the foundation of the accountability reporting system in New York State to comply with No Child Left Behind (NCLB) regulations is named nySTART (New York State Test and Accountability

Reporting Tool). The challenges associated with effectively using nySTART were considerable. As a curriculum director noted,

We were told that nySTART would provide reporting which could be used to inform program level review and improvement. I suppose if it had worked the way they intended, it might have helped. But, it was well over a year before those reports could be accessed in a timely or consistent manner....they never got down to the classroom level....and after a year of failures, many of our staff just stopped trying.

An assistant superintendent for instruction noted, “We use nySTART for reporting data to the state and then wait to use it to access verification reports and get our report cards. The rest has been notoriously unreliable.” District and building-level leaders interviewed for this research did not report the use of this system to the classroom level.

The nySTART system relies on data, which has been and continues to be, collected in systems designed to assist administrators in managing their schools as they have been designed. These automated systems are in place within school districts to create efficiencies that automation can provide: scheduling, grade reporting, attendance recording, compliance with Individuals with Disabilities Education Act (IDEA) mandates, required graduation credit accrual, etc. While reflecting on the commercially available student management systems currently available for schools to use, a curriculum coordinator remarked, “We don’t have systems to get this kind of data....do we? I don’t have the expertise to know the answer to that question....who would we go to to get this type of reporting?” The systems to which this coordinator is referring are not designed to provide timely information for district or building administrators or teachers to inform their instructional program or practices. As one superintendent interviewed for this research noted, while reflecting on their current systems, “I don’t know where to begin to get

data out of these systems that would be meaningful. From what I understand the reports that are available don't really make sense to use for instructional purposes." This fundamental difference reflects the need for substantial systems redesign. Nationwide research confirms these issues to be prevalent (Means, et al., 2010). These systems will require an evolutionary refocusing to consider their proper role and subsequent development as systems and technologies that support leadership in programmatic and instructional analysis. The technologies required to advance the science of data mining, according to the research, have evolved to the extent that some districts are beginning to experiment (Streifer & Schumann, 2005). However, none of the districts in this research had advanced their systems to take advantage of data mining technologies. When asked about data mining tools, one superintendent responded, "Really...sounds like an interesting idea....any around we can see?" As such, districts are challenged with determining if there is significant correlation between a wide variety of data elements and student performance. This may limit the ability of a district to develop comprehensive goals related to student improvement.

Recommendation for Further Research

Further research into the development and use of data systems, which can provide timely and contextually meaningful data reporting, is warranted. Since teachers and administrators may use these systems in ways they do not use their current systems, which are used primarily for reporting purposes, research into data display and alert notification would be helpful as well. The body of research, which includes information on the use of data mining technologies in K-12 education, is very thin; hopefully, more research will be forthcoming.

Conclusion

Until data systems evolve to meet the growing needs for data to be provided within the context of improving student performance, progress in the use of data systemically will be slow.

Finding

Pushback against the district office by building-level administrators is impeding the process of setting district wide goals for student achievement.

Each administrator taking part in this study identified internal political dynamics as impeding (to varying degrees) the development, adoption, and implementation of district-wide goals. Building administrators and teachers are concerned that district-wide goals setting may subsume their authority over building leadership and instructional practice. As noted by a secondary principal interviewed for this research, “General goals were approved by the district administration and BOE, but they were set by the individual building planning teams.”

Evidence of this struggle between central office and the individual buildings was evident throughout the interview process.

Recommendation for Further Research

Research into the frequency of this conflict as an issue impeding the systemic use of data is warranted. Finding ways to enhance the level of cooperation between individual building administrators and district administrators would be helpful in forwarding the systemic use of data for student improvement.

Conclusion

Current level of cooperation on the systemic use of data between the district office administration and school building administration is slowing implementation.

Finding

Formative assessments, SINI status, and RTI are effectively mandating district-wide goals setting and the use of data to improve student performance.

The evidence in this research indicates that NCLB legislation and Response to Intervention (RTI) mandates are compelling districts to move forward with the systematic use of data. The study participants report that gains are being made as a result of mandates such as RTI. The requirement to develop tiered levels of intervention, as well as provide screenings, interventions, and ongoing assessment of those respective interventions effectiveness, is clearly forcing public schools to look more critically at their processes for providing remedial instruction and special education services. RTI requires a clear and defined standard for evaluating student progress. This is putting pressure on districts to track progress through the use of data. All of the district administrators participating in this study had established a data-driven dialog with their faculty relative to RTI. Most of the data consisted of progress associated with growth, or lack of growth, within the specific disciplines of math and English Language Arts (ELA).

The SINI (Schools in Need of Improvement) schools, as identified under NCLB accountability guidelines, or schools nearing SINI status, were clearly motivated and understood the need for a systemic effort to inform programmatic and instructional programs and interventions. Specifically, issues with graduation rates and special education subgroup performance resulted in their identification and subsequent status. Outside influences, while criticized by respondents in this research for not appropriating the resources required to remediate the underlying problems, which may have resulted in the SINI status, have forced districts to deal with issues systematically.

Recommendation for Further Research

More research on changes in systemic programmatic and instructional interventions, resulting from these mandates over time, is warranted. NCLB continues to evolve and so do the reporting and accountability requirements. The same is true for RTI. More research could be helpful as more schools come into full compliance with the mandates of these legislative acts.

Conclusion

Mandates have been helpful in developing the systemic use of data to improve student performance.

Finding

Credible expertise in leadership helps pave the way for more systemic use of data for student achievement improvement.

The pride in professional practice was clearly evident throughout the interviews for this research. While the politics of the power struggles that exist between the various levels of authority and the alignment of those in authority with constituent groups clearly have impeded district-wide, non-negotiable goal setting, it is also clear that, where teachers and administrators were respected as knowledgeable and reliable in their respective academic disciplines, progress is being made. In one district, a well-respected teacher and former union leader teamed with a district administrator with whom she discovered she shared a common passion for literacy instruction. Their ideas gained respect and substantial buy-in within the school faculty. Later, through the sharing of professional practices with other teachers, another district school made progress using many of the same practices.

Recommendation for Further Research

Ongoing research into perceived expertise and its effect on system-wide use of data would be useful. Such research might include specific information on instructional and programmatic changes that were supported and successful, as well as information on whether diverse data types were used in these effective strategies.

Conclusion

Credible expertise in instructional leadership is an important characteristic in implementing the systemic use of data to improve student performance.

Research Question: What data, in addition to summative and formative assessment data, are districts using to inform instructional and programmatic interventions intended to improve student performance?

Finding

The use of data, in addition to summative and formative assessments, is evolving slowly.

The evolving uses of data to inform programmatic and instructional interventions for student performance improvement are prompting the inquiry into data sources other than those associated with academic performance. Mandates, again, are playing a role. However, districts are finding other benefits and are making some progress in collecting and analyzing other data.

The use of data other than formative and summative assessment data can be defined according to the Bernhardt model (Bernhardt, 2004). While data used for NCLB accountability draws on three of these domains—demographics, school process, and student learning—it is not inclusive of all elements from those domains that are currently collected. Further, it does not contain any perception data. It is used for informing instructional and programmatic interventions on a district-wide basis.

The districts involved in this research were all using data associated with student learning to inform their strategies and interventions. The advent of RTI has brought more focus on districts using school process information, particularly as it relates to levels of intervention and associated instructional strategies into their planning processes. However, the districts are still reporting more data for accountability than they are using to inform their instructional and programmatic interventions. The data available within school process, demographics, and perception are still largely being used in response to requirements for reporting and accountability associated with NCLB standing. Districts are beginning to use interval data. These data are generated through relatively quick assessment of student progress typically performed during an independent work session as part of a typical lesson. These data are being used to track progress relative to scope and sequence of skills associated with mathematics and ELA. These data are similar to other student learning domain data in that it represents skill development and student progress within the specific academic discipline. Current research provides a rich discussion of how that data may be used (Bernhardt, 2009). However, two of the districts participating in this research, consistent with research, indicate that such use of data are not commonly in practice (Means, et al., 2010).

Recommendation for Further Research

Further research may demonstrate the use of additional data or perhaps identify additional impediments to its use. This may require a longitudinal study as data systems need to evolve as well as the ability of district and building-level leaders to collect and access this information.

Conclusion

A combination of better data systems and access to expanded domains of data may help improve the systemic use of data to improve student performance.

Research Question: Do districts need more and different data than they can currently readily access to assist in programmatic and instructional interventions?

Finding

Districts need more resources and assistance in order to access and effectively use additional data to inform programmatic and instructional interventions to improve student achievement.

District administrators in this study reported that their abilities to manage the data and systems required for reliable reporting were becoming competent. This has occurred as a result of significant assistance from organizations such as the Regional Information Centers. However, district administrators lack the time, staffing, and expertise to develop a well-articulated system for using data beyond summative and formative assessment data to inform instructional and programmatic improvement in student achievement.

Recommendation for Further Research

Research into how to develop and evolve such systems that could readily provide broader sets of data to inform programmatic and instructional interventions is warranted.

Conclusion

Districts would benefit from assistance from other agencies that have the expertise to develop systems and supports to more readily access and make use of data.

Finding

Professional development resources and time for administrators and teachers to assist in the systemic use of data are currently insufficient to meet needs.

The level of professional development time required to effectively implement the multiple sources of data into effective instructional and programmatic interventions to improve student performance is a major blocker to moving ahead. A major study conducted for the United States Department of Education (USDOE) revealed that more than half of all teachers agreed that, “professional development should include training on how to interpret data and how to translate data into changes in instructional practice” (Means, 2009). Other researchers have concluded with similar findings (Loran Earl, 2009; Ronka, et al., 2009). However, none of the districts in this survey have had more than three days per year to work with faculty on professional development. The extent to which additional time is needed for working with teachers and staff to effectively use data is a question, which should be the subject of further research. Equally important is that training people on the proper use of data is only one piece of the puzzle. Some districts in this study had some common planning time for some teachers; however, some of the administrators in this study complained that this falls apart past seventh grade because of scheduling challenges.

Recommendations for Further Research

Specific research on staff development was beyond the scope of this research. However, more research should be done to examine the effective use of data. The specific scope and resources required to effect the desired result from staff development could be valuable information for district and building leaders as well.

Reporting requirements and the standards-based curriculum alignment has been the cornerstone of NCLB. The New York State Education Department has established, in cooperation with many other states, a set of core standards which will bring New York into closer alignment in the areas of curriculum with other states (Regents, 2011). This may make it

easier for New York State schools to provide more alignment between commercially available instructional materials and assessments. That may provide welcome relief to those looking for more systemic curricular consistency with the prospect of aligning instruction more likely.

However, from a longitudinal data analysis perspective, it will be problematic. The scaled scores and student performance indicators (SPI) are based on a broader set of learning standards. In some cases the new core standards have evolved expectations for students that deviate from those New York formerly adopted. This will mean that data collected since 2002 will either be recalibrated against the new standards or will require significant psychometric analysis to determine how, if at all, it can be used moving forward (Liebowitz & Koretz, 2010).

Research could be done on how to make certain that data collected over the past 10 years can best be used to provide meaningful insights into programmatic and instructional interventions for students given the apparent inconsistency in data. The NYSED should fund such a study and make the information readily available to the field. Such research would assist in maintaining the credibility of ongoing efforts to use data to inform programmatic and instructional interventions.

Conclusion

The current educational system does not provide the time and resources to make the best use of data systemically to improve student performance.

Research Question: Are there different data that are more useful in informing student improvement based on needs levels and/or performance level of the school district?

Finding

Research opportunities regarding students reported as free lunch-eligible are significantly limited due to restrictions on release of student identity.

The accountability group of students who qualify for free lunch status under the NCLB guidelines are deemed to be students who are economically disadvantaged. While the district administrators participating in this study acknowledge that this group of students is reported, they do not have access to the identity of these students to review specific data or design specific interventions. Since such a group could not be specifically targeted in advance for interventions, the districts' leaders are left with the prospect of examining the performance of these students as a group after interventions. District administrators participating in this survey expressed that the scope of their concern was limited to interventions for student performance due to the reporting restrictions. Administrators did coordinate with outside agencies that provided social services for students, but could not confirm that those students were part of the accountability subgroup.

Recommendations for Further Research

An acceptable methodology that complies with confidentiality concerns should be developed.

Conclusion

There is insufficient data available to evaluate the types of data that might best inform student performance improvement based on reported student economic needs levels.

Recommendation for System-level Leaders

Challenges associated with ownership of building and classroom-level autonomy and leadership cannot be ignored. The work of Waters and Marzano (Waters, et al., 2006) indicates that goals need not be granularly developed on the districts level. However, their work does

identify the need for non-negotiable goals to be set at the district level. The research of Richard Elmore points toward the need for more systemic and structured staff development around the needs of the student (Elmore, 2000). The data systems required to inform the development of such goals that can access data from the context of the classroom level and allow it to be mined for use on the district level may be a missing link in closing the loop with an effective and timely progress monitoring system that provides comprehensive data for decision making. It seems clear, based on the politics identified in this research regarding issues of autonomy and control for goal setting, that more than just data systems need to be improved. System-level leaders will have to address the challenges of bridging the gap between the district office and the classroom. Mandates based on NCLB and RTI, as well as a high level of perceived credibility in professional practice, are two positive influences moving districts forward with the systemic use of data. Even where district leaders have faced push-back from building administrators over turf-related issues, progress has been made through mandates and the instructional leadership of those deemed credible by their peers. System leaders can use these positive influences to move their districts forward, as well.

Lastly, the New York State Education Department must provide valid and reliable assessments and associated data to districts. Further, they must make the assessment data they are providing consistently available to districts, or risk further setbacks to data use, as well as district professional development credibility. Without such data, districts cannot be expected to use additional data and analysis to monitor and adjust programmatic and instructional interventions and strategies. Districts' and BOCES' leadership will need to advocate strongly for such validity, reliability, and sustained access to assessment resources.

Conclusion

The challenges faced by school districts' leaders in developing the systemic use of data to improve student performance are considerable. The politics of turf wars between the district office and the school buildings, particularly on the secondary level, have caused some leaders to feel stalemated in trying to move forward. However, federal mandates associated with NCLB and RTI have proved to be a motivating force. These initiatives have had the net effect of encouraging educators and administrators alike to work together to use data more effectively and systematically.

The data systems currently in use at the school districts, which were the subject of this research, have not evolved so that meaningful data could be easily accessed and reports generated to assist in providing programmatic and instructional interventions. In addition, the statewide system has been useful for accountability purposes, but has experienced serious performance issues and does not refresh data often enough or with as broad a range of data as would be desirable to monitor student progress. This has left schools without any readily available solutions to provide instructionally and programmatically relevant reporting; and, then, there are issues of time and money.

Professional development time and resources required to educate teachers in the use of data or reporting systems are not currently available. None of the administrators interviewed in this study had an easily implemented solution for this issue.

In light of the challenges that are being faced, there are reasons for optimism. Two district administrators, from two different districts involved in this research, identified knowledgeable and credible instructional leadership effectively promoting dialogs that have resulted in improved professional practice in the systemic use of data. Further, two of the six districts participating in this study are starting to use perception data to systemically inform

programmatic development within their respective districts. A combination of mandates pulling schools forward, better data systems providing easily accessible and relevant data, and strong, credible, and professionally respected instructional leadership shows progress towards the use of data beyond formative and summative assessment to improve student achievement are likely to proceed.

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*Appendix 1***Request to Participate in Research**

Carl Strang

226 Juniper Drive

Schenectady, NY 12306

Home 370-2719

Cell 337-0164

Work 862-5331

Date:

Name:

Title: Superintendent of Schools

Address

I am a student in the Educational Leadership Doctoral Program at the Sage Graduate School in Albany, New York, under the direction of Dr. Raymond O'Connell, Associate Professor in the School of Education and Research Director of the Doctor of Education program. You are being asked to participate in a research project intended to identify which data elements, beyond those derived from summative and formative assessments, school districts are using to systemically inform instructional and programmatic interventions.

The purpose of the study is to identify what data districts are using to assist in systemic improvement of student achievement. Currently, many districts are using summative statewide accountability data to inform instructional interventions and program improvement. Since there are many other types and sources of data, this study seeks to uncover the other sources and types of data districts are using to systemically inform instructional interventions and program improvement.

It is important to note that responses in this study will be kept confidential. Your responses may be reported, but will not be attributed to you in the final study. A system of coding involving numbering of districts and position title will be used for a generic attribution (i.e., Superintendent 1, Elementary Principal 3). My intent is to present information that may influence policy discussion at a State wide level and confidentiality could hinder that process. Each interview should take less than 60 minutes to complete.

A small amount of time may be necessary for follow-up questions at a later date to clarify responses by phone or e-mail. I will take handwritten notes of all interviews, and responses will remain confidential.

This research has received the approval of The Sage Colleges Institutional Review Board. If you have any questions regarding this study you may contact me at the above e-mail address or phone numbers or Dr. O'Connell at 518-369-1648.

Thank you for considering participation in this important research.

Sincerely,

Carl Strang

*Appendix 2***Informed Consent Form**

To: School leader or staff member name,

You are being asked to participate in a research project entitled: A study to determine the type of information that is being used by districts to inform instructional and programmatic interventions beyond statewide testing data and data from curriculum based formative assessments.

This research is being conducted by Carl Strang, a doctoral student in the Sage Graduate College Ed. program. The Sage College chairperson for this research is Dr. Raymond O'Connell. The purpose of the research is to determine what data districts are using to inform instructional and programmatic interventions and how they are using it systematically to assist students in making progress consistent with district-wide goals.

Research Questions

1. How are districts using data systemically to advance student performance improvement goals?
2. What data, in addition to summative assessment data, are districts using to inform instructional and programmatic interventions intended to improve student performance goals?
3. Do districts need more and different data than it can currently readily access to assist in programmatic and instructional interventions?
4. Are there different data that are more useful in informing student improvement based on the needs level of the school district?

Nature and duration of subject participation: The research participants will consist of leaders on various levels of school administration: school superintendents, assistant superintendents and directors of curriculum and instruction, building principals, assistant principals, department heads and teachers. Interviews will consist of a series of 14 questions, with prompts to provide the proper definition and context for the respondent.

As part of the research, I am requesting that you allow me to interview you for about 45 minutes so that I can investigate how data is used in your district to inform school program decisions and instructional interventions. The interviews will not be recorded using audio electronic recording. A laptop, to which I have exclusive access, will be used. Notes will be taken as electronic text. I will store the data in an online repository to which I have exclusive access. Names will be used during the data collection. Names and locations will not be used in the written results. Locations will be numbered and persons will be identified by their district number and position (i.e., Superintendent 1, Elementary Principal 3). When the study is completed, the electronic data will be deleted by being placed in a recycling bin and then emptied.

This interview is voluntary and you can opt out at any time without penalty by the researcher or your school district. The benefit of your participation is that your input for this project will add to the research into the use of diverse data types to assist in improving student performance according to district-wide achievement goals. In addition, we hope to develop a greater understanding of the relationship between the use of data and the economic level of the district's students. There is minimal risk involved with this study based upon the subject matter that is being investigated, and your position in the school district should you agree to participate

and if you are selected. Specific names and building or district identities will not be used or published. Participation in the interview, if you are selected, will be voluntary.

Initials: _____

I understand that I may at any time during the course of this study revoke my consent and withdraw from the study without any penalty.

I have been given an opportunity to read and keep a copy of this Agreement and to ask questions concerning the study. Any such questions have been answered to my full and complete satisfaction.

I, _____, having full capacity to consent, do hereby volunteer to participate in this research study.

Signed: _____

Research participant: This research has received the approval of The Sage Colleges Institutional Review Board, which functions to ensure the protection of the rights of human subjects. If you, as a participant, have any complaints about this study, please contact:

Esther Hazkvitz (518) 244-2226

Dean of the School of Health Sciences

Sage Graduate School

65 First Street

Troy, New York 12180

*Appendix 3***Interview Protocol and Questions**

Date: _____ Location: _____ Time: _____

Method of communication: ___ In-person ___ electronic voice Video Conference _____

Interviewer: _____

Position: _____

District code: _____ Interviewee code: _____

Hello, today we will be conducting an interview to gather data for an exploratory study. The purpose of this quantitative exploratory study is to determine the type of information that is being used by districts to inform instructional and programmatic interventions beyond statewide testing data and data from curriculum-based formative assessments. I have provided the questions and a glossary of terms in advance, so that we may be better able to make the most productive use of your time.

Should we take a few minutes to clarify any questions or concerns you may have based on the background information provided in advance? (Interviewee may ask any questions in reference to the glossary of terms or questions. I will answer all of the questions until the interviewee and I are satisfied that we share a common understanding of the vocabulary, context, concepts, questions and intent of the study.)

OK...let's begin the interview:

- 1) NCLB prescribes a formula using the free and reduced lunch formula to determine if a student is to be considered economically disadvantaged. Based on this criterion, what percentage of your district is considered economically disadvantaged?

- a) Do you think the subgroup created by this classification has unique needs in terms of instructional program or instructional interventions?
- 2) Are there subgroups of your schools population who are not making adequate yearly progress or safe harbor according to NCLB guidelines?
 - a) If so, which groups?
- 3) Do you have district wide goals that target improving student achievement?
- 4) How are your district wide goals for student performance improvement articulated? (detail questions a b and c may be asked as prompts as required to elicit responses)
 - a) Are they defined by district and/or by building?
 - b) Are they further defined by subgroup?
 - c) How does the board of education explicitly support these goals?
 - i. Are they publicly adopted?
 - ii. Are they publicly published?
 - d) Who is the lead administrator charged with overseeing the planning and execution of the improvement process?
 - e) Have the collective bargaining units acknowledged these goals and supported the plan to improve student performance in accordance with the improvement process?
 - f) Have the collective bargaining units placed any limitations or conditions on their support of these goals?
- 5) How are roles and responsibilities organized and assigned throughout the district to achieve these goals (sub questions a - e are prompts if required to elicit the information).
 - a. Is there a written professional development plan to align with these goals?
 - b. Are these goals reflected in the teacher evaluation process?

1. If so, how?
 - c. Does your district have a data coach or data coordinator to assist teachers in accessing and interpreting data?
 - d. If yes, how often do they meet with administrators?
 - e. If yes, how often do they meet with teachers
- 6) How is progress toward these goals monitored?
- 7) How is progress toward these goals evaluated?
- 8) For the purposes of this study, we will define programmatic improvements or interventions as any changes in the delivery of services offered by the school that restructure the school day, course offerings, or intervention teams. Instructional interventions are defined as changes to the strategies used by teachers within the school program.

What data are being used to provide insight for:

- i) Programmatic changes?
 - ii) Instructional interventions?
- 9) How did you determine which data you would be using?
 - 10) How often are those data being shared with administrators, typically updated?
 - A. In what format are updated data provided to administrators?
 - i. Graphs
 - ii. Charts
 - iii. Tabular (spreadsheet layout)
 - iv. Data contextualized by observation and reflection.
 - B. Is the same format used for teachers?
 - i. If not, how is it different?

11) How often are data, being shared with teachers, typically updated?

- a) Daily, Weekly, Monthly, quarterly, annually?
- b) In what format?
 - i. Graphs
 - ii. Charts
 - iii. Tabular (spreadsheet layout)
 - iv. Data contextualized by observation and reflection.
- c) Is there specific data which, when reported, would trigger an intervention?
 - i) Please explain

12) Do they have evidence of student progress based on interventions or programmatic changes using this data?

- a) If yes, what evidence indicates a positive correlation with the intervention?

13) How long has this process been in place?

14) What school process data, in addition to the data you currently use systemically, do you think could be helpful?

15) How could the data identified in the questions above be best made available to assist in monitoring and informing progress towards student achievement goals?

Thanks very much for your time today. I can provide you with the notes I have taken from this interview, and you may choose to comment or clarify, if you wish?

Your assistance has been critical to this research. When the final study is completed, I'll be sure to send an electronic copy for your information.

Once again, thank you.