DATA USE BY TEACHERS IN HIGH-PERFORMING, SUBURBAN MIDDLE SCHOOLS TO IMPROVE READING ACHIEVEMENT OF LOW-PERFORMING STUDENTS

by

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The accountability mandates of No Child Left Behind (NCLB) have changed the relationship between schools and data. State assessments provide new sources of data and the high - stakes associated with these tests have increased the pressure on schools to use this data to drive instructional decisions. Under NCLB, accountability is based on overall student performance and achievement of designated subgroups of students. Within this system, the existence and needs of low-performing students who do not comprise a subgroup for accountability purposes could be concealed in a school with high overall levels of student achievement.

This study examined the use of data by sixth-grade and seventh-grade reading teachers in three high-performing middle schools to improve the reading achievement of low-performing students. The selection of schools was based on the achievement levels of eighth-grade students on the 2004-05 Reading PSSA (Pennsylvania System of School Assessment). Each of the middle schools involved in the study scored in the top 10 in Allegheny County, Pennsylvania, based on the percentage of students at the advanced or proficient levels.

Data was collected through a teacher survey and teacher interviews. While teachers in each school reported use of data to identify low-performing students, identify the reading

strengths and weaknesses of low-performing students, and monitor students' reading progress, the data used differed among the schools and teachers within the schools. The variation in data use was related to the grade level of students taught, the placement of students in regular education or special education reading classes, the number of low-income students in the school, and the resources provided by the school and/or district to facilitate data use.

DEDICATION

To Calista

my eight-year old niece

who possesses an uninhibited enthusiasm for learning

and

takes great pride in her academic accomplishments.

My world is a better place because of you.

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ACKNOWLEDGEMENTS

I would like to thank some of the many people who contributed to the completion of this dissertation and provided support to help me reach this personal goal. "Oops, there goes another rubber tree plant!"(Van Huesen, 1959)

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1.0   CHAPTER

1.1   REVIEW OF LITERATURE

1.1.1   Introduction

> During the last decade and in the wake of the *No Child Left Behind* legislation, standards, assessments, and accountability have emerged as three prongs of a national education reform movement that has asked district and school administrators to think differently about educational decision-making and the use of data. However, research about data-driven decision-making is limited (p.1).

The above quote from Light et al. (2005) captured the environment in which educational decision-making was situated subsequent to the No Child Left Behind (NCLB) legislation. The literature on the role of data in systemic efforts to improve schools had focused on developing, guiding, and sustaining organizational change that leads to improvements in student learning (Fullan & Stiegelbauer, 1991; Massell, 1998; Schmoker, 1996). However, research literature on data to support instructional decision-making was still limited (Light *et al.*, 2004).

Under NCLB, there were two fundamental purposes of data in educational organizations. First, data was necessary for districts and schools to demonstrate accountability for results and facilitate public reporting. Second, data was essential for making instructional decisions and increasing student achievement (Rudner & Boston, 2003). In this accountability system, low-performing schools were required to employ data for both purposes. On the other hand, while

NCLB held high-performing schools responsible for data necessary to demonstrate accountability and facilitate public reporting, high-performing schools were under less pressure to use data to make instructional decisions and increase student achievement.

To complicate matters, state assessments designed to rank-order schools and students for purposes of accountability were generally not good instruments for helping teachers improve instruction or modify their approach to individual students (Black & Wiliam, 1998; Guskey, 2003; Marzano, 2003). Furthermore, educators did not have the background that prepared them to engage in systematic inquiry (Herman & Gribbons, 2001). Data-driven decision-making required that appropriate data be turned into useful information that could aid in making knowledgeable and informed decisions (Light *et al.*, 2005a). In the NCLB age of accountability, understanding and using data about school and student performance were fundamental to improving schools and student learning (Bernhardt, 1994; Killion & Bellamy, 2000).

This review of literature related to this study will attempt to establish a framework for understanding the basis for and complexities of incorporating data-based decision-making into high-achieving schools to improve instruction and student learning. This review of literature will focus on the following three areas: 1) Historical Context of the Accountability Mandates of No Child Left Behind, 2) Pennsylvania Accountability under No Child Left Behind, and 3) Knowledge Management.

The review begins by establishing an historical perspective on the current accountability mandates contained in the federal No Child Left Behind Act of 2001 (NCLB). This is followed by an examination of the Pennsylvania accountability system. Included in this section are definitions of levels used to measure progress and an outline of the tools provided to support schools in the alignment of people, programs and resources to improve student achievement.

The final section of the literature review provides an overview of the knowledge management system as it has been applied to school improvement. The new accountability mandates of NCLB have changed the relationship between schools and data. The knowledge management system guided schools as they acquired relevant data, built capacity in people to turn data into information useful for making knowledgeable decisions, and monitored progress.

1.1.2   Historical Context of the Accountability Mandates of No Child Left Behind

Accountability was a focus of educational reform for many years, and the collection and reporting of data has been one segment of that process. However, the entities held accountable, the standards by which their accountability was reviewed, the sanctions attached to accountability, and the types of data required to demonstrate accountability have undergone significant changes. These measures have changed as the federal government has become increasingly more involved in the area of K-12 public education.

1.1.3   The Elementary and Secondary Act of 1965

A significant shift in the federal government's role in education began in the mid-1960s. Section 402 of the Civil Rights Act of 1964 required the Commissioner of Education to conduct a survey of equal educational opportunities ("Civil rights act of 1964, p.L. No. 88-352 (1964)"; Wong, 2004) In 1965, James Coleman conducted the elementary and secondary education component of the survey (Wong, 2004).

After Coleman conducted a social science research project involving 600,000 children in 4,000 schools, Coleman and his colleagues issued *Equality of Educational Opportunity*. In this publication, widely known as the Coleman Report, educational resources provided by a child's

fellow students was reported as being more important to his achievement than were the resources provided by the school board (Coleman *et al.*, 1966). In fact, the socioeconomic (SES) background of fellow students was reported as having been more predictive of student achievement than facilities and curriculum (Coleman et al., 1966).

The year Coleman began conducting his research, the federal government enacted Title 1 of the Elementary and Secondary Education Act (ESEA). The Elementary and Secondary Education Act of 1965 (ESEA) marked a turning point in the federal government's role in improving public schools. Title 1 was part of President Lyndon Johnson's War on Poverty. According to public law (1965), the purpose of Title 1 was to allocate extra funds for public schools with high concentrations of poverty in order to improve the educational opportunities of poor students (Public Law 107-110, Section 1001).

The assumption underlying Title 1 was that states were not adequately investing in the education of low-income and minority students (McDonnell, 2005; Sunderman *et al.*, 2005). The law provided federal dollars to school districts to meet the needs of educationally deprived children. Given that the district was the entity that received financial aid for education, it was the major focus of accountability.

States considered it beyond their capacity to validate that districts used their resources in an efficient manner to promote student learning. They were primarily interested in whether localities complied with the input and process standards the state set to ensure a minimum level of education was being provided across districts (Fuhrman & Elmore, 2004). At that time, the spotlight was on equality of educational opportunities.

The state monitored these standards through district reporting of areas such as expenditures, use of certified teachers, presence of curriculum, conditions of facilities, and

provisions for providing services to special-needs students (Fuhrman & Elmore, 2004). Loss of state aid was the consequence for noncompliance with state law and regulations. However, states were reluctant to deny aid to students who were victims rather than agents of failure (Fuhrman & Elmore, 2004). As a result, school sanctions were rare.

1.1.4 The Hawkins-Stafford Improvement Act: The Elementary and Secondary Act Reauthorization of 1988

The focus on accountability shifted from inputs to outputs in the 1980's. Influenced by concerns that the United State's ability to compete economically with other countries was compromised by the quality of its educational system, *The Nation at Risk* report of the 1980's brought about a swing in educational policy (McDonnell, 2005). The education reform movement that ensued focused efforts on improved academic achievement. This reform movement was different from previous ones in that it aimed at the instructional core of schools. In the 1988 ESEA reauthorization, Title 1 moved closer to the core instructional program in individual schools with the initiation of school wide programs (McDonnell, 2005). Frequently, the state education reforms included instituting statewide testing programs. The center of attention had switched from educational opportunity and equity to improved educational quality and higher achievement for all students.

The 1989 Charlottesville Education Summit, convened by President George H. W. Bush and the nation's governors, led to a number of commitments that were important for sustaining the momentum of education reform (Tirozzi & Uro, 1997). The National Governors' Association proposed a trade under which states would ease their regulation of local school districts in exchange for greater local accountability for improved student learning. Although this strategy took a variety of forms at the federal, state, and local levels, there was a broad consensus

regarding the overall direction for education reform. This agreement centered on raising academic standards, measuring student and school performance against those standards, providing schools and educators with the resources needed to prepare students to reach the standards, and using achievement tests to hold schools accountable for the results (McDonnell, 2005; Tirozzi & Uro, 1997).

While the members of the summit reaffirmed that education was and had to remain a state responsibility and a local function, they recognized the need for a continued federal role in providing and supporting a national framework for school reform. First, the federal government maintained its financial role in education, especially with regard to ensuring access to education at all levels to disadvantaged students and students with disabilities. Second, they continued to support state-led education reforms through research and development, data gathering, and communication of effective practices. Next, they administered federal education programs with flexibility and in a fashion that supported state leadership of education reform (Tirozzi & Uro, 1997).

1.1.5 Improving America's Schools Act: The Elementary and Secondary Act Reauthorization of 1994

The Goals 2000 Act, signed into law on March 31, 1994, reflected the commitments made at the 1989 Charlottesville Education Summit. The 1994 reauthorization of ESEA, Improving America's Schools Act (IASA), further defined the new federal role in K-12 education. ESEA was amended to require states to create performance-based accountability systems for schools. The goal behind the 1994 amendment was for Title I to supplement and accelerate the trend that began at the state level (Elmore, 2002). The IASA required significantly more testing and accountability than previous ESEA reauthorizations (McDonnell, 2005). To receive Title 1

grants, states were required to set academic standards, test students on those standards, and disaggregate reports to determine whether disadvantaged students were making adequate yearly progress (AYP) toward meeting state content and performance standards (Kafer, 2004).

Through IASA, the federal government dictated that the learning goals, expectations, and curricular opportunities were to be the same for Title 1 students as they were for all other students (McDonnell, 2005). In this environment, states were not the only entities held accountable. Schools accepting Title 1 funds were accountable for the Title 1 students' academic growth in whatever way states held them accountable for all other students' achievement. IASA was a performance-based accountability system grounded in the theory that measuring performance and coupling it to rewards and sanctions would cause the school and the individuals who worked in them to perform at higher levels (Elmore & Fuhrman, 2001). As a result, schools not making annual yearly progress (AYP) were subject to corrective action including loss of funds, staff replacement, or transfer of students to other public schools within the district. Conversely, high performing schools were eligible for rewards (Kafer, 2004; McDonnell, 2005).

States and localities were given greater flexibility in their Title 1 program operations in exchange for grounding them in high standards and accountability for student outcomes (Jennings, 1998). Congress allowed states to implement key elements of IASA over six years. The alignment of state and federal accountability policies was supposed to be completed by the year 2000 (Elmore, 2002; Jennings, 1998). However, states varied vastly in their administrative capacities to implement performance-based accountability systems specified in IASA (Elmore, 2002; McDonnell, 2005). Most did not have the capacity to administer and monitor testing

programs on the scale required to meet the federal requirements. Consequently, fewer than half the states had met the requirements by the target date (Elmore, 2002).

Despite the strong emphasis the law placed on accountability, those provisions in IASA were not strongly enforced. While most states had some level of standards and testing, state sanctions were non-existent. School sanctions were rare (Kafer, 2004). After the presidential election of 2000, the new administration sought to toughen the ESEA's accountability provisions.

1.1.6 No Child Left Behind Act: The Elementary and Secondary Act Reauthorization of 2001

The federal government's steps toward strengthening accountability and identifying achievement standards for all students influenced the 2001 reauthorization of ESEA. (Kafer, 2004). In January 2002, President George W. Bush signed into law the No Child Left Behind Act (NCLB) of 2001. This new law contained the most sweeping changes to the ESEA since it was enacted in 1965 (U. S. Department of Education, 2004). NCLB moved federal regulations away from an emphasis on fiscal audit trails and gave states and localities increased flexibility with how they spent Title 1 funds (McDonnell, 2005). In exchange, the law held states, districts, and schools accountable for student outcomes.

NCLB represented a profound change in the relationship between the federal government and state and local educational agencies (Sunderman et al., 2005). It changed the federal government's role in kindergarten-through-grade-12 education by requiring America's schools to describe their success in terms of what each student accomplished (U. S. Department of Education, 2004). Contained in the NCLB act were the President's four basic education reform

principles: stronger accountability for results, increased flexibility and local control, expanded options for parents, and an emphasis on teaching methods that had been proven to work.

According to NCLB, an accountable, educational system contained several critical steps.

- States created their own standards for what a child should know and learn for all grades. They developed standards in reading, math, and science.

- With standards in place, states tested every student's progress toward those standards by using tests aligned with the standards.

- Each state, school district, and school was expected to make adequate yearly progress toward meeting state standards. Progress was measured for all students by sorting test results for students who were economically disadvantaged, were from racial or ethnic minority groups, had disabilities, or had limited English proficiency.

- School and district performance was publicly reported in district and state report cards. Individual school results were reported on the district report cards.

- If the district or school continually failed to make adequate progress toward the standards, then additional sanctions were imposed.

Note: From Introduction: No Child Left Behind: Pennsylvania Department of Education/ Available on the Web at http://www.pde.state.pa.us/nclb/cwp/view.asp?a=3&Q=77815&nclbNav=|5483|&nclbNav=|

Like IASA, NCLB was grounded in standards-based education reforms. However, NCLB differed from previous ESEA's by requiring states to implement a single, statewide accountability system in which all students grades 3-8 were tested annually in reading and math on standards-based tests. Under NCLB, each state was responsible for deciding what their students should learn in each grade (U. S. Department of Education, 2004). To that end, states adopted rigorous academic standards.

As another step toward increased accountability, annual statewide assessments were aligned with the curriculum to provide an external, independent measure to determine the extent of learning (U. S. Department of Education, 2004). States were required to test students, report on their progress, and submit a plan showing how student performance will improve each year

with the goal of full proficiency in math and reading by 2014 (Kafer, 2004). NCLB marked the first time in the history of Title 1 that the federal government was dictating the pace of progress required of all schools, regardless of the students they served and the resources available, and requiring prescriptive sanctions for low-performing schools that failed to improve their scores on standardized tests (Fuhrman & Elmore, 2004).

The ESEA has undergone many changes from its inception in 1965; the most sweeping change came with the 2001 reauthorization known as the No Child Left Behind Act. Some of the ESEA changes are summarized in Table 1.1.

Table 1.1 Key Features of the Elementary and Secondary Education Act

	ESEA 1965	ESEA 1988	ESEA 1994	ESEA 2001
Role of federal/state government in Title I schools	Significant shift in federal government's role in improving public schools	Introduced concept of state supported program improvement	Shift in federal government's role from focus on compliance to whole school reform	Tightened federal requirements and escalated rate and level of change expected in schools
Guidelines for use of federal Title1 funds	Only Title 1 students allowed to receive services supported with federal funds	Included school-wide programs option for schools with 75% of students living in poverty	Included school wide programs option for schools with 50% of students living in poverty	Federal dollars targeted on special groups, but federal requirements affect education of *all* children
Entities held accountable and accountability requirements	Districts accountable for use of federal dollars to directly benefit disadvantaged pupils	Required states to define levels of academic achievement Title 1 students should attain and districts to identify ineffective programs and provide support	States required to hold districts and all schools accountable for making progress toward meeting standards, not just those receiving Title I funds	Each state, school district, and school expected to make adequate yearly progress toward meeting state standards
Data required to demonstrate accountability	District report on expenditures, use of certified teachers, presence of curriculum, condition of facilities	Average Chapter 1 student gains on annual, norm-referenced tests	Results from reading and math testing in three grade spans: 3-5, 6-9, and 10-12 disaggregated at the school level	Results from reading and math testing in grades 3, 4, 5, 6, 7, 8, and 11 disaggregated at district and school level by student subgroups
Sanctions	Loss of state aid, federal/state government reluctant to enforce, sanctions rare	Law focused on accountability but federal/state monitoring concentrated on use of funding compliance	Law focused on accountability but state sanctions were non-existent, and school were sanctions rare	School improvement, corrective action, and restructuring sanctions imposed on districts and schools

NCLB dramatically shifted accountability to the school level through AYP requirements. In NCLB, AYP was defined more precisely and time lines for meeting state proficiency were clearly delineated (McDonnell, 2005). Performance on state reading and math tests was one way the federal government determined whether schools as well as districts made AYP. Schools that failed to meet AYP goals were subject to sanctions which became more severe over time (NCLB, 2002; (Sunderman et al., 2005). Schools failing to make AYP for two years were identified for school improvement. These schools were required to notify the parents of the "in need of improvement" status and inform them of the options available. Under NCLB, AYP made schools accountable to students, their parents, and the community. Its purpose was to ensure that all students reached the proficient level or higher in reading, language arts, and mathematics by 2014 (Pennsylvania Department of Education, 2005a).

The structure of the assessment and accountability systems varied greatly from state to state. The state systems that were in place differed in terms of the uses that were made of test scores; the stakes that were attached to results for teachers, other educators, and students; the ways in which the results were reported; the emphasis given to performance standards; and the level at which performance standards were set (Linn, 2003).

Furthermore, there were differences among states in terms of applying NCLB sanctions to non-Title 1 schools. A non-Title 1 school identified for improvement did not necessarily face sanctions under NCLB. In a survey conducted by the Center for Education Policy and published in March 2005; twenty-nine states reported that they did not sanction non-Title 1 schools, four states reported that they did, and fifteen states replied that they applied some of the NCLB sanctions (Center on Education Policy, 2005).

1.1.7　Pennsylvania accountability system under no child left behind

The Pennsylvania Accountability System applied to all public schools and districts. The state based its system upon content and achievement standards and other key indicators of school and district performance such as attendance and graduation rates.

1.1.8　Annual Yearly Progress (AYP)

Pennsylvania used the same criteria to determine annual yearly progress (AYP) for the state's school districts and individual schools; however, the way they met the criteria was different. Figure 1.1 shows the three AYP categories for 2005.

1.　**School Attendance (K-8) (**for schools without a high school graduating class)**:** Target of 90% or any improvement from previous year.

　　Graduation Rate (HS) (for schools with high school graduating class).

　　　　Target of 80% or any improvement from previous year.

Figure 1-1 Pennsylvania's AYP Categories and Targets for 2005

2.   **Achieving Proficiency (Performance):**   To meet the Performance Target required for AYP, schools and every measurable subgroup in the school must have at least 45% of the tested students achieve Proficient or higher on the mathematics assessment and 54% of the tested students achieve Proficient or higher on the reading assessment.

3.   **Taking the Test (Participation):**   At least 95% of students overall and within each sub-group must take the test.

Note: From PA Accountability System: Academic Achievement Report: Pennsylvania Department of Education. Available on the Web at http://www.paayp.com/

Pennsylvania AYP required that all groups of students reach proficiency in reading and mathematics at the specific percentage level. These groups included all racial and ethnic backgrounds, students with limited English proficiency, economically disadvantaged students, and special needs students. The minimum number of students for subgroups (N) was 10 for reporting purposes and 40 for accountability.

For a school to meet AYP, they had to meet all targets. Because the targets associated with subgroups that have fewer than 40 students in the school did not apply, the number of targets used for AYP varied from school to school.

The state based accountability upon its reading and mathematics academic standards. The Pennsylvania System of School Assessment (PSSA) was the standards-based criterion-referenced assessment used to measure a student's attainment of the academic standards. Participation in and performance on the PSSA was the foundation of measuring AYP. It was mandatory for students in grades three to eight and 11 to take the PSSA. Students' scores fell into one of four levels. In compliance with §4.51(b) (4) of the PA School Code, the State Board

of Education approved criteria by which levels of performance were judged. These levels are

defined in Table 1.2.

Table 1.2 Pennsylvania's General Performance Level Descriptors

LEVEL	DESCRIPTORS
Advance	The Advanced Level reflected superior academic performance. Advanced work indicated an in-depth understanding and exemplary display of the skills included in the Pennsylvania Academic Content Standards.
Proficient	The Proficient Level reflected satisfactory academic performance. Proficient work indicated a solid understanding and adequate display of the skills included in the Pennsylvania Academic Content Standards.
Basic	The Basic Level reflected marginal academic performance. Basic work indicated a partial understanding and limited display of the skills included in the Pennsylvania Academic Content Standards. There was a need for additional instructional opportunities and/or increased student academic commitment to achieve the Proficient Level.
Below Basic	The Below Basic Level reflected inadequate academic performance. Below Basic work indicated little understanding and minimal display of the skills included in the Pennsylvania Academic Content Standards. There was a major need for additional instructional opportunities and/or increased student academic commitment to achieve the Proficient Level.

Note: From PA Assessment: Pennsylvania Department of Education. Available on the Web at
http://www.pde.state.pa.us/a_and_t/site/default.asp

AYP performance targets were the percent of students who met or exceeded scores at the

Proficient level in reading and mathematics. The state's AYP targets increased gradually until

the year 2014. Aligned with the federal NCLB legislation, the goal of the Pennsylvania

Accountability System was to have every child in the commonwealth Proficient or above in

reading and mathematics by the year 2014. The targets for the 2005-07 school year through the

2014 school year are displayed in Table 1.3

Table 1.3 Adequate Yearly Progress (AYP) Goals for the Core Subject Results

Percent	Years					
	2005-07	**2008-10**	**2011**	**2012**	**2013**	**2014**
Proficient in Reading	54	63	72	81	91	100
Proficient in Math	45	56	67	78	89	100

Note: From PA Accountability System: Pennsylvania Department of Education. Available on the Web at http://www.pde.state.pa.us/pas/cwp/view.asp?a=3&Q=94580&pasNav=|6132|&pasNav=|6325|

At the district level, targets were assessed in three grade spans: Grades 3–5, 6–8, and 9–12. Participation rate and performance rate were based on the total number of students in each grade span. To meet AYP goals in Performance Rate, the district needed to achieve all targets for both subjects in one grade span only. In contrast, school level rates were calculated by the total number of students tested in the school, regardless of their grade level. At both the district and school level, there were seven performance calculations made for all students and every measurable subgroup. Among the performance calculations were Confidence Intervals, Safe Harbor, and the Pennsylvania Performance Index.

For each additional year a school did not make AYP, the sanctions became more severe. In an effort to support schools and prevent additional sanctions, there were state reinforcements for schools that did not meet AYP targets for two consecutive years. One of the supports was a School Improvement Plan. All schools, including charter and area vocational-technical schools, that did not meet AYP for two consecutive years had to prepare a School Improvement Plan.

1.1.9   School Improvement Plan

In an effort to assist schools in developing a plan for improvement, the state made available a *Getting Results! Framework*. Mr. Mutiu O. Fagbayi, President of Performance Fact, helped the Pennsylvania Department of Education's (PDE) Bureau of Assessment and Accountability

develop *Getting Results—A Framework for School Improvement Planning* as well as *Leading for Learning. Leading for Learning!*, the framework for district strategic planning, was closely aligned to *Getting Results!* The state provided these frameworks to support schools in the alignment of people, programs, processes, and resources to improve student achievement and attain AYP. While the state did not require schools to use the frameworks, individual schools needed to address the framework's core requirements in their school's improvement plan.

Both *Getting Results!* and *Leading for Learning!* were organized according to Pennsylvania's "High-leverage Educational Practices for PreK-12." These practices, which included quality teaching, quality leadership, artful use of infrastructure, and continuous learning ethic, are presented in Figure 1.2.

Since the enactment of NCLB, districts and schools had a far greater need to read, analyze, use, and present data effectively. To assist in that process, the Pennsylvania Department of Education (PDE) provided tools to help in analyzing results from state and local assessments and in using the data to improve instructional practices.

Schools began their Improvement Plan by summarizing their values, mission, and vision. After these tasks were completed, they moved into the data phase of the Action Sequence. Schools at this phase were encouraged to complete five steps.

2. QUALITY LEADERSHIP

In every school and school system …

2.1 Strong and capable instructional leadership team

2.2 Unrelenting focus on evidence-based teaching-&-learning

2.3 Culture of trust, continuous improvement and accountability for performance

1. QUALITY TEACHING

In every classroom and every school …

1.1 A qualified, effective teacher

1.2 Rigorous curriculum, reliable assessments and standards-aligned instructional materials

1.3 Evidence-based instruction for *all*, with targeted assistance for 'struggling' students, subgroups and staff

3. ARTFUL USE OF INFRASTRUCTURE

In every school and school system …

3.1 Authentic relationships with families, community, business and higher education

3.2 Strategic alignment & utilization of staff, facilities, time, fiscal resources and technology

3.3 Intensive supports for 'struggling' districts, schools and teams

Quality Leadership

Continuous Learning Ethic

Quality Teaching

Artful Use of Infra-structure

4. CONTINUOUS LEARNING ETHIC

In every school and school system …

4.1 Culture of evidence-based collaborative practice

4.2 Culture of continuous professional learning

4.3 Culture of collective professional accountability

Figure 1-2 High-leverage Educational Practices for PreK-12

Note: From Leading for Learning © *Performance Fact, Inc.* Available on the Web at http://www.pde.state.pa.us/pas/lib/pas/high_leverage_practices_nocolor.pdf

STEP 1 - **DATA** ("Where are we now?")

    i.   <u>Reflection on student results:</u> Analyze and interpret student data from multiple forms of assessments over a period of 2-3 years. Include PSSA results, curriculum- embedded assessments, Value-added Assessment System (PVAAS) analysis, Progress Monitoring data, teacher records & observations, student feedback, and parent comments. Analyze trends that seem to apply to all students as well as trends in performance you observe about subgroups (e.g. special education, economically disadvantaged students, English language learners, racial/ethnic subgroups).

    ii.   <u>Reflection on educational practice:</u> Student results provide insights into the efficacy of teaching & learning for all students as a collection and for sub-populations. Reflect on what the current level of student results suggests about effectiveness of your school's current practices for Improving Quality Teaching; Quality Leadership; Artful Use of Infrastructure and Continuous Learning Ethic. Next, identify opportunities for improvement in each of these areas.

STEP 2 – DESIGN ("Where do we want to go?")

 i. Based on the reflection about student results and educational practices you conducted during the "Step 1: Data" phase, identify the vital few research-based approaches, successful models, or promising ideas which you believe will have the greatest impact on improving the quality of teaching and learning.

 ii. Satisfy yourself that your vital few ideas flow logically from your analysis, and consist of high-leverage strategies that form a coherent instructional roadmap.

STEP 3 – DELVERY ("How are we going to get there?")

 i. Based on the vital few high-leverage strategies you identified during the "Design" phase, map out the step-by-step tasks that need to be accomplished, the timeline for completing the tasks, the persons responsible for the completion of each task, the resources you will need, and the evidence of accomplishment of the task.

STEP 4 – DEVELOPMENT OF PEOPLE ("What additional skills and training do we need?")

 i. Based on the strategies identified in the "Design" phase and the specific tasks outlined in the "Delivery" phase, identify the continuous professional learning you will need in order to implement your plan successfully. Specifically, identify what teachers, staff, and administrators need to know, learn, and be able to do to improve the quality of teaching & learning.

STEP 5 – DOCUMENTATION ("How do we track our progress?")

 i. Identify what evidence you will monitor along the way to document your progress and to make mid-course adjustments as needed (e.g. student assessments & work samples, indicators of instructional effectiveness, measures of continuous learning and collaboration). Specify the intervals or junctures at which evidence will be gathered/presented.

Note: From Getting Results © Performance Fact, Inc.(2003,2004). Available on the Web at http://www.pde. state.pa.us /pas/lib/pas/revised070304GettingResultsworkbook.ppt

Pennsylvania's School Improvement Plan framework demonstrated the state's belief in the importance of data to improve student learning and performance on the PSSA. The challenge was to create new knowledge about how to systematically improve teaching and learning for all students (Holcomb, 2004) . The steps of the Action Sequence paralleled the knowledge management continuum. In knowledge management systems, the data-information-knowledge continuum provided an iterative cycle that recurrently connected back to and helped educators

focus on outcomes. Given the goals and mission of the organization, the practices of knowledge management provided a framework for understanding how and where to focus energy to improve educational outcomes (Petrides & Nodine, 2003).

1.1.10 Knowledge Management

The analysis of data to guide decision-making had become a powerful tool for process improvement in both public and private enterprises (Consortium for School Networking, 2003). Businesses and government agencies had shifted from information management, which emphasized the technology infrastructure used to collect and manage data, to knowledge management. Knowledge management involved integrating data and information into the daily activities of decision makers (Consortium for School Networking, 2003).

Likewise, educational enterprises had also begun to apply the strategies and approaches of knowledge management to their practice. Data became incorporated information available for faculty and staff to apply as knowledge, creating an environment where students and teachers succeed (Consortium for School Networking, 2003). The basic building block of any knowledge management system in education was individual student data (Thorn, 2001).

Considered broadly, knowledge management in education was thought of as a framework that enabled people within an organization to develop a set of practices to collect information and share what they knew, leading to action that improved services and outcomes (Petrides & Nodine, 2003). In this process, data, information, and knowledge formed a continuum that was applied to make decisions. Data existed in the form of facts or quantitative measures available to and about an organization (Light et al., 2005a; Light *et al.*, 2005b; Petrides & Nodine, 2003).

Whether or not data became information was dependent upon the understanding of the person viewing it.

Information was data given meaning when people connected it to a context. It was used to comprehend and organize our environment. Information by itself did not carry any implications for future action (Light et al., 2005a; Light et al., 2005b; Petrides & Nodine, 2003).

Knowledge was the understanding that developed as people reacted to and used the information that was available to them (Light et al., 2005a; Light et al., 2005b; Petrides & Nodine, 2003). Knowledge could be both individual and organizational. Knowledge could be shared with others through a sharing of information in appropriate contexts (Petrides & Nodine, 2003).

The data-information-knowledge continuum was a crucial component of knowledge management practices because it emphasized a reaction that may either produce an action step or a reassessment of the type of information needed to guide effective action (Light et al., 2005a). This iterative cycle, depicted in Figure 1.3, connected the action-based knowledge back to the reevaluation of outcomes. Data driven decision making required that the appropriate data be turned into useful information that could aid in the making of knowledgeable and informed decisions (Light et al., 2005a).

Figure 1-3 The Knowledge Management Curriculum

Note: From *Knowledge Management in Education: Defining the Landscape* (p.13) by L. Petrides and T. Nodine, 2003, Half Moon, CA: Copyright by Institute for the Study of Knowledge Management in Education (ISKME)

In the wake of the NCLB legislation, standards, assessments, and accountability emerged as three components of a national education reform movement that has asked district and school administrators to think differently about educational decision making (Light et al., 2005a). The assessment and reporting provisions of NCLB, coupled with the legislation's accountability provisions, expanded the need for data collection, analysis, and reporting. Thus, the challenge for educators was to get beyond the profusion of data to knowledge (Golden, 2005). To that end, it was essential to acquire relevant data, build capacity in people to turn data into information useful for making knowledgeable decisions, and monitor progress.

1.1.11 Data

There were two fundamental purposes of data in educational systems. First, data was necessary for districts and schools to demonstrate accountability for results and facilitate public reporting. Second, data was essential for making instructional decisions and increasing student achievement (Rudner & Boston, 2003). In order to comply with the accountability demands of NCLB, many states and school districts were scrambling to collect data and organize data reports (Rudner & Boston, 2003). While the data collected for accountability could provide insight into the performance of an educational system, it was reasonable to assume that there were major differences between the evidence used for external accountability systems and the data needed for making instructional decisions in the classroom (Thorn, 2002).

Many schools were working with data in limited ways, often as a reactionary response to external pressure with little thought given to what the process could do for the school (Feldman & Tung, 2001b). Understanding and using data about school and student performance was fundamental to improving schools and student learning (Bernhardt, 2005; Killion & Bellamy,

2000). Schools committed to improvement analyzed existing data from multiple sources and collected and analyzed additional data when appropriate (American Association of School Administrators, 2005).

A school's ability to formulate improvement plans was directly linked to the quality of its data (Blankstein, 2004). In order for school leaders to create focused improvement plans, they needed clear, quantifiable data concerning the school's status. Data collected had to be from diverse sources in order to guide the planning and implementation of initiatives for academic improvement and provide a complete picture of the school's progress (Blankstein, 2004). The use of three or more indicators (ideally from different sources) to present a representation of the subject is termed *triangulation* (Wahlstrom, 2002). Triangulation assisted in making a clear picture and provided confidence in decision-making (Wahlstrom, 2002).

The Education Commission of the States conducted a study to determine the ways in which exemplary school districts used data. They found that almost every exemplary district used its school data to inform and create school improvement plans. While such plans were often required by the state and sometimes by the district, in all cases the improvement plans helped educators focus their attention on student learning (Education Commission of the States, 2002).

Districts in the study collected three primary types of data: schools' demographic, achievement, and instructional data. In addition, they sporadically collected perception data (Education Commission of the States, 2002). Districts could answer almost any question about the effectiveness of a school by gathering, collecting, intersecting, and analyzing these four types of data (Bernhardt, 2003).

1.1.12 Achievement Data

Multiple assessments were needed to provide the various types of data required at different levels of the education system. Single measures, while useful, were unlikely to address all the dimensions of competence identified by learning goals (Pellegrino, 2001). Assessments aimed at improving learning provided data needed at all levels on the aspects of schooling for which they were responsible (Pellegrino, 2001).

Differing assessments yielded different information about student achievement. They served accountability purposes by providing valuable information about the progress and growth of an education system over time. If assessments were instructionally sensitive, they provided information about the effectiveness of teaching practices (Pellegrino, 2001).

In a national evaluation of America's Choice comprehensive school reform design conducted by the Consortium for Policy Research in Education, researchers found effective school data systems were an interplay of three data sources: external assessment, school-wide assessment, and individual teacher assessment (Supovitz & Klein, 2003). They concluded that the focus on multiple forms of assessment administered and analyzed more frequently rather than solely on the annual high-stakes external tests created a greater balance and in some ways reduced the anxiety of relying on a single measure as the sole definition of success (Supovitz & Klein, 2003).

In schools with effective school data systems, these three assessment forms had the potential to drive school improvement efforts and support them along the way. External assessments, consisting of state and district assessment, provided the target for schools to strive toward and the data from which to set initial direction. School-wide assessments were more refined and provided schools with guidance along the path. In addition, they allowed schools to

adjust their direction and strategies along the way. Individual assessments gave teachers day-to-day guidance (Supovitz & Klein, 2003).

1.1.12.1 *External Assessments*

NCLB required that states create strong academic standards for what every student in elementary, middle, and high school learned and knew in reading, math, and science. In addition, states tested each student's progress toward those standards by using tests that aligned with the standards. Beginning in the 2005-06 school year, districts administered reading and math tests every year in grades 3, 4, 5, 6, 7, 8, and 11. Beginning in the 2007-08 school year, science achievement will also be tested (Pennsylvania Department of Education, 2005).

The standards-based reform movement changed the expectations about what all students should learn and, by implication, what they should be tested on (Pellegrino, 2001). Standards-based reform increased both the amount of testing and the stakes attached to test results. Across the nation, states were setting tough new content and performance standards defining what students should know and be able to do. States were also designing and implementing new assessment systems to help students meet these standards and to measure their progress in doing so. These assessment systems were designed to support improved student achievement (Pellegrino, 2001). Assessments provided achievement targets for instruction by focusing attention on a particular set of skills and knowledge that students must master to meet the standard. They also informed students of how well they were achieving standards by defining different levels of proficiency (Pellegrino, 2001).

Statewide assessments that were aligned with state content and performance standards were used for many purposes (Education Commission of the States, 2005). Purposes and benefits of statewide-assessment programs included the following:

- Districts used information provided to determine needs and target resources.

- Schools used information to provide appropriate professional development for teachers and guide them toward meeting the needs of all subgroups of students.

- Teachers used information from assessments required under NCLB to influence classroom decisions and provide the best possible instruction for student learning so that all students succeed.

- Parents used this information to monitor progress and make informed decisions. (U. S. Department of Education, 2003).

These external assessments provided data from which to set initial direction, develop topics for professional development, identify students in need of additional support, and create targets for long-term performance goals. Additionally, they were of value for benchmarking school performance against other schools (Supovitz & Klein, 2003).

Conversely, it was unlikely that raw achievement scores showing how broad groups of students were performing helped school districts transform teaching and learning (Hershberg *et al.*, 2004). Educators could not use aggregated data to support instructional improvement (Doran, 2003). Furthermore, they were not frequent and specific enough to provide the timely and detailed information to use in targeting instruction for individual students (Hershberg et al., 2004; Popham, 2003a; Rabinowitz & Sri, 2001; Supovitz & Klein, 2003). Schools had to receive test results in a timely manner, and the data needed to indicate which content standards the student had or had not mastered (Gandal & McGiffert, 2003; Popham, 2003a).

The National Research Council concluded that standardized tests and state tests based on standards had a place in K-12 education, but schools should not use them as the primary indicator of student achievement (National Research Council, 1999). These tests were not sensitive to the actual learning that goes on in the classroom (Marzano, 2003). Furthermore, many teachers found that the instructional benefits provided by the required educational tests

were almost nonexistent (Popham, 2003b). They rarely found that the student's performance on these tests helped diagnose that student's strengths and weaknesses. In addition, they rarely found that the student's test performance provided additional information on what it is they needed to do instructionally to help the student achieve better results (Popham, 2003b).

Another problem with standards-based reporting was that the tests generally contained relatively few items that measured performance against a particular standard or group of standards (Elmore, 2004). Some states had adopted an extensive list of standards and a single test was unlikely to address all of them. In addition, time and cost constraints affected the number of standards a test addressed (Elmore, 2004). Tests could seldom include enough items to measure every standard adequately.

Since student performance could vary widely from item to item, particularly with performance items, it was inappropriate to report student results on each standard (Shavelson *et al.*, 1993). Consequently, reports that may have been able to indicate whether students attained standards were seldom able to designate which standards the students had attained (Elmore, 2004). This limited their instructional value, since teachers had no information about the topic or skill for which a student was not meeting proficiency.

Given these facts, it was clear that schools needed multiple sources of data to improve student achievement. Administering standardized tests once a year with results delivered months later was not sufficient (Salpeter, 2004). Supovitz and Klein (2003) stated that multiple data sources of student performance could provide teachers with more frequent and specific evidence with which to act. These multiple measures could be combined in such a manner so as to enable individuals and schools to demonstrate competency in a variety of ways and support the coherence of instruction (Elmore, 2004).

1.1.12.2   *School-wide Assessments*

Effective and efficient local-assessment programs complemented statewide efforts (Rabinowitz & Sri, 2001). A local assessment program consisted of a set of assessments tools or approaches developed or selected by school districts or individual schools to meet their own needs. Standardized achievement tests gave us a general view of school, district, or state educational effectiveness (Edwards, 2002). However, these once-a-year measures rarely helped the classroom teacher, resource teacher, administrator, parent, or learner know precisely what to do to improve learning (Shea *et al.*, 2005).

When small, frequent assessments were consistent across a district or school, the results were more responsive to teacher practice as well as signaling areas where wider intervention could have been helpful (Crane *et al.*, 2004). Data from district or school assessment meaningfully supplemented the large-scale state or standardized assessment (Schmoker, 2003).

The data required for more precise decision making came from systematically exploiting a variety of student performance data at the individual and school levels (Supovitz & Klein, 2003). In a study conducted as part of the Consortium for Policy Research in Education's (CPRE) national evaluation of the America's Choice comprehensive school reform design, school-wide assessments were found to be the most powerful form of assessment (Supovitz & Klein, 2003). Likewise, case studies of nine Michigan public schools (five elementary, three middle, and one high school) conducted by the North Central Regional Educational Laboratory (NCREL) in 1999 showed that assessments that were administered and analyzed more frequently were more effective in gauging student progress (Cromey, 2000).

Nevertheless, for school-wide assessment systems to be effective, they had to consist of a deliberately organized set of assessment tools that were used for a clearly articulated purpose (Cized, 1995). Tests added to school-based student assessment systems without regard to a clear

purpose could have been disruptive to ongoing school programs (Cromey, 2000). They may have confused school staff, students, and parents about which outcomes were valued. They may also have unnecessarily taken time away from instruction (Cromey, 2000).

In comparison, school-wide assessments that promoted a common, unified vision for student achievement provided a more calibrated compass to guide schools on the path toward improvement (Supovitz & Klein, 2003). They provided school leaders with timely feedback to adjust professional development strategies and refine assistance plans for individual students. They also provided opportunities for faculty inquiry into relationships between practice and learning (Supovitz & Klein, 2003).

School-wide assessments were administered systematically across groups of students within a school. Their results were aggregated and systematically analyzed for patterns that were then used to guide school and individual teacher decision making (Supovitz & Klein, 2003). A school-wide assessment was not necessarily used with all students in a school. It was more likely to be used across grade level or content area (Supovitz & Klein, 2003).

For example, school-wide assessments may have been theme tests that came from texts or were part of a curriculum series used across grade or content areas in a school. They offered the opportunity to assess all students in a particular skill or content area. School leaders were then able to use the resulting evidence to draw conclusions about the effects of the instruction of individual teachers or groups of teachers (Supovitz & Klein, 2003).

1.1.12.3 *Individual Teacher Assessments*

Of course, no matter how good a curriculum-specific test was, it could not capture the variety of data available to teachers who interact with students on a daily basis (Marzano, 2003). In addition, state assessments designed to rank-order schools and students for purposes of

accountability were generally not good instruments for helping teachers improve instruction or modify their approach to individual students (Black & Wiliam, 1998; Guskey, 2003; Marzano, 2003). The assessments best suited to guide improvements in student learning were those that teachers administered on a regular basis in their classrooms (Guskey, 2003). Classroom assessments had the potential not only to measure and report learning but also to promote it (McTighe & O'Connor, 2005).

Teachers were vital to a data-driven school culture. Much of the quantitative data in schools derived directly from the teachers' work with students (Noyce *et al.*, 2000). To be sure students were learning, they needed to be assessed constantly, not just yearly (Shea et al., 2005). Classroom assessment involved an ongoing gathering of data as students went about their daily learning. These assessments yielded data that could be used to refine lesson objectives and instructional practices on the spot (Guskey, 2003; Shea et al., 2005; Supovitz & Klein, 2003).

Classroom assessments fell into three categories, each serving a different function (McTighe & O'Connor, 2005). Summative assessments summarized what students learned at the conclusion of a segment of instruction. Common examples of summative assessments included tests, performance tasks, final exams, culminating projects, and work portfolios (McTighe & O'Connor, 2005). These assessments tended to be evaluative and commanded the attention of parents and students given that their results usually appeared on report cards (McTighe & O'Connor, 2005). Certainly, summative assessments alone were insufficient for maximizing learning (McTighe & O'Connor, 2005). Assessment results provided at the end of a teaching period did not allow teachers to adjust instruction and increase student achievement.

The two other classroom assessments categories, diagnostic and formative, provided feedback along the way and had the potential to influence teaching and learning (McTighe &

O'Connor, 2005). Diagnostic assessment, sometimes known as pre-assessments, were used to check students' prior knowledge and skill levels, identify misconceptions, profile learners' interests, and reveal learning-style preferences (McTighe & O'Connor, 2005). Diagnostic assessments provided teachers with information to guide differentiated instruction (Brimijoin *et al.*, 2003; McTighe & O'Connor, 2005).

The most useful data for teachers and students derived from the more immediate feedback from formative assessments (Blankstein, 2004). Formative assessments occurred simultaneously with instruction and included both formal and informal methods. Familiar examples of formative assessments included ungraded quizzes, oral questioning, teacher observation, draft work, think-alouds, student-constructed concept maps, learning logs, and portfolio reviews (McTighe & O'Connor, 2005). These assessments were useful because they helped teachers measure students' progress in reaching curriculum goals and their responsiveness to instruction and intervention (Supovitz & Klein, 2003).

Black and Wiliam (1998) conducted a review of over 20 studies on classroom assessment. All the studies showed that strengthening the practice of formative assessment produced significant learning gains (Black & Wiliam, 1998). The studies included in their review ranged over age groups from 5-years-old to university undergraduates, across several school subjects, and over several countries. In these studies, formative assessments were shown to help low achievers more than other students and so reduced the range of the achievement gap while raising overall achievement (Black & Wiliam, 1998).

Individual teacher assessments were the most precise and customized of assessments (Supovitz & Klein, 2003). They provided highly tailored and flexible feedback. Classroom assessments allowed for opportunities for adjustment in instruction and targeted assistance

(Shepard, 2000). They allowed teachers to decide if they needed to offer individual or group attention, and they allowed them to assess the effectiveness of their chosen approaches (Supovitz & Klein, 2003).

1.1.13 Instructional Data

Achievement data alone did not provide sufficient information on school success (Du & Fuglesten, 2001). A broader range of information from other sources was necessary. Included in these sources needed to answer questions about school effectiveness was data on the instructional processes (Bernhardt, 2003). Instructional processes data included data on curriculum, intervention students experienced, the teachers students were taught by and so on (Education Commission of the States, 2002).

The scope, appropriateness, and accessibility of learning opportunities for students has become a central issue in the national discourse on how to define, measure, and improve the quality of education throughout the nation (Mullens, 1995). Research dating back to the 1966 release of *Equality of Educational Opportunity* (the "Coleman Report") showed that among the various influences that schools and policymakers can control, teacher quality was found to account for a larger portion of the variation in student test scores than all other characteristics of a school, excluding the composition of the student body (so-called peer effects) (Goldhaber, 2002). Much of the research published since the Coleman Report has confirmed the finding that high-quality teachers raised student performance (Goldhaber, 2002).

In 1987, Mortimore and Sammons conducted a study of reading and math achievement of students from low socioeconomic backgrounds in England. They found that the school and its teachers had between six and ten times as much influence on learning as did all socioeconomic

factors combined (Schmoker, 2002). A 1997 study by the U.S. Department of Education found that effective teaching accounted for as much as a 16 point difference in reading and math scores (Mendroe & Weerasinghe, 1997). The groundbreaking value-added studies of Sanders showed that certain teachers achieved far better results than other teachers in the same school, which belies the notion that socioeconomic factors reign supreme (Archer, 1999).

While teachers are undoubtedly an important component in educational achievement, they could not do it alone. Districts that were most successful in implementing school improvement plans had active central-office curriculum staff who identified promising practices and linked these to the schools (Education Commission of the States, 2002). It was crucial to survey the school clients to understand what they thought about current school processes and practices to help the analysis of what the school needed to improve (Bernhardt, 1994). An analysis of current and desired practices helped to determine discrepancies that existed between an observed state of affairs and a desired state of affairs. In addition, priorities for change could be determined (Bernhardt, 1994).

1.1.14 Demographic Data

Demographic data provided the context within which change was planned and took place (Bernhardt, 1994). Through the study of demographic data, such as population trends, schools could predict with some accuracy the numbers of students and types of ethnic diversity they expected to work in the future (Bernhardt, 1994). Demographic data included background information on students, staff, and schools such as gender, ethnicity, number of years in the district, attendance, teacher certification, and school enrollment (Education Commission of the States, 2002).

Victoria Bernhardt provided a list of possible demographic information for schools to gather. This list is displayed in Table 1.4.

Table 1.4 Demographic Data

Student Demographics*	School Level
Number of students	History
Parent Income Levels	Funding
Parent Education Backgrounds	Safety\Physical Plant
Parent Employment	Uniqueness and Strengths
Families on Public Assistance (AFDC counts)	Image in the Community
Dropout Rates	Support Services for Students & Teachers
Graduation Rates	Number of Teachers and Administrators
Retention Rates	Years of Teaching/Administering
Awards (Student, school)	Ethnicity/Gender
Number Qualifying for Chapter I	Retirement Projections
Health Issues/Handicaps	Types of Certificates
Discipline Indicators (e.g. suspensions, referrals)	Student-Teacher Ratios
Attendance Rates	Administrator-Teacher Ratios
Tardy Rates	Attendance Rates
Mobility	Turnover Rates
Transiency Rates	Teacher Salary Schedule
Number of Years at the School	Support Staff

School Community	School District
History	Description of District
Location	History
Population	Number of Schools, Students, Teachers, Administrators
Race/Ethnicity	Support services for Students and Teachers
Socioeconomic Status	Organizational Structure
Size	
Employment Status	
Educational Backgrounds	
Housing Trends	
Health Issues	
Crime Rate	
Economic Base	

	State Level
	Population
	Race/Ethnicity
	Socioeconomic Status

Note. From *The School Portfolio* (p.39) by V. Bernhardt, 1994, New York, NY: Copyright 1994 by Eye on Education, Inc.

1.1.15 Perception Data

Perception data was needed by schools to answer questions about whether students felt connected, whether teachers collaborated, and whether parents and community members had confidence in their local schools (Holcomb, 2004). Perception data included individual views, values, and beliefs about the schools in which people worked and learned. This data may have been collected through questionnaires, interviews, and observations (Education Commission of the States, 2002).

In order to bring about change, change leaders first needed to know an individual's concerns (Hord *et al.*, 1987). Those concerns included awareness concerns, informational concerns, personal concerns, management concerns, consequence concerns, collaboration concerns, and refocusing concerns (Holcomb, 2004).

To educators, variables such as students' attitudes, interests, and values were very important (Popham, 2003b). These variables were excellent predictors of students' future behavior. Teachers had a professional obligation not only to try and reinforce positive attitudes, but also to intervene to change negative attitudes (Popham, 2003b).

While perception data was important, perception data that was confirmed by objective indicators was far more valid for decision making (Holcomb, 2004). In the absence of objective indicators, perceptions that were shared by more than one group provided a better basis for action (Holcomb, 2004).

1.1.16 Data to Information

Few would deny that information is power, but meaningful information could only have been gained from a proper analysis of data (Streifer, 1999). Data became information when people placed it in context through interpretation to determine patterns, causes, or relationships (Petrides & Nodine, 2003). To be most useful, data had to be transformed into information by means of disaggregated analysis and interpretation, multi-year trends, multiple sources, root cause analysis, and informed discourse among stakeholders (Performance Fact Inc, 2004).

The Center for Collaborative Education (CCE) studied six schools engaged in data-based inquiry and decision making to examine the questions affecting student achievement (Feldman & Tung, 2001a). Data-based inquiry and decision making were processes in which school personnel engaged in ongoing analysis of data from multiple sources to develop a comprehensive picture of the school's strengths and weaknesses, and developed a plan to prioritize and address the challenges (Feldman & Tung, 2001a). CCE found that the most successful schools had buy-in of a majority of the school staff, had internal capacity in looking at data, and had made a commitment to the process by providing structured time for teachers to engage in the process (Feldman & Tung, 2001a).

In April 2000, Education Commission of the States (ECS) received a grant from the Edna McConnell Clark Foundation to identify the factors, conditions, and policies that support the use of data for decision-making and school improvement. They found that successful districts had a long-term plan for technology hardware and software implementation. Schools had a system to analyze and disaggregate data quickly (Armstrong & Anthes, 2001).

Reporting and retrieval technologies guided the organization and summarization of data into information (Light et al., 2004). Data analysis required a database or data warehouse

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(Bernhardt, 2003). Schools had lagged behind industry in adopting technology-based systems. A major obstacle to schools or districts taking advantage of this technology was the cost and complexity of real-time knowledge management systems (Thorn, 2001). Nevertheless, data warehouse systems were an excellent tool for making complex selections of data from multiple sources (Thorn, 2002). New data warehousing systems were emerging that simplified moving student-specific data to teachers (Holcomb, 2004).

Data warehouses supported two categories of data – cross sectional and longitudinal (Rudner & Boston, 2003). Cross-sectional data provided information for different groups of students within one period. Longitudinal data provided information on groups of students as they progressed through the grades. The National Center for Educational Accountability recommended the following steps to generate longitudinal student data systems:

- Create a consistent statewide student identifier to connect records of the same students across multiple databases and years.

- Collect the following information at the individual student level:

  - Fall enrollment, demographic, and program participation data
  - Spring test score data
  - Information on each student who was absent or exempted from testing
  - High school course completion data
  - High school SAT, ACT and Advanced Placement participation and scores
  - Graduation and dropout data
  - Develop an audit system to monitor the accuracy of information provided by the school district (Dougherty, 2002).

A well-organized easily accessible data warehouse allowed a wide range of analysis using both cross-sectional and longitudinal data (Rudner & Boston, 2003). For improving education, data had to be of high quality, accessible, and in a format that was easy to use. A data warehouse, in addition to simplifying the effort needed to generate required reports, was most beneficial when

educators used the data to make decisions to improve instruction and learning (Rudner & Boston, 2003).

Unfortunately, most educational systems had very little technical capacity (Thorn, 2001). The tools and data necessary for within-classroom analysis were different from those needed for a within-school comparison (Thorn, 2001). Individual teachers needed sufficient computing resources in the classroom with links to district-level data systems to make meaningful queries in real time (Thorn, 2001). Most data available within a district information system was inadequate for making mid-course instructional decisions (Thorn, 2002).

Likewise, there was an increasing need for local analytical capacity (Thorn, 2001). The most important element of an successful data-driven program was not the data, the analytic tools, or even the curriculum framework upon which data analysis was based; rather, it was the school culture in which the data inquiry took place (Salpeter, 2004). The American Association of School Administrators, The National School Boards Association, and the National Center for Research on Evaluation, Standards, and Student Testing formed a research partnership. Based on their research, they highly recommended that districts create a data-informed culture, build school district capacity to use data-informed processes, provide staff development, and implement communication opportunities (Conrad & Eller, 2003).

Professional development for teachers was an essential element of an effective data-driven program (Salpeter, 2004). Most educators did not have the backgrounds that prepared them to engage in systematic inquiry (Herman & Gribbons, 2001). The district needed to provide knowledgeable people to perform the major analyses for the district and each of its schools. Teachers should not have been spending their time performing data analysis but rather studying results (Bernhardt, 2003). Deriving professional development from an analysis of what

was needed to improve student learning assumed that the system had the capacity to acquire useful, accurate information about student learning and that the people in the system had the capacity to apply that information to decisions about instructional content and professional development (Elmore, 2004).

Information gleaned from case studies of nine Michigan public schools conducted by the North Central Regional Educational Laboratory found that schools committed to using data to guide their work allocated time for teachers to meet, discuss, and make instructional decisions (Cromey, 2000). For a data driven decision making to be effective, it was crucial for administrators to make time and resources available to teachers (Salpeter, 2004). Teachers needed time to collaborate in developing curricula and revise instructional strategies by learning from one another (Herman & Gribbons, 2001). Schools attempted to promote a common vision for student achievement and provided teachers and administrators with time and training necessary to properly use data on student progress (Cromey, 2000).

1.1.17 Information to Knowledge

After collecting and analyzing data, schools and districts needed to respond to the information they obtained. The knowledge portion of the management model involved the combination of the acquired information and its translation into action (Thorn, 2002). The challenge for schools was to learn how to make purposeful use of information to improve teaching and learning (Thorn, 2002).

One goal of knowledge management was to facilitate the transformation of implicit knowledge into accessible explicit knowledge that can be relevant in problem-solving situations (Spector & Edmonds, 2002). Educational institutions faced many challenges as they sought

ways to make knowledge visible and share it among stakeholders. Their technical systems could help to generate data and information, but these systems did not necessarily improve decision making or outcomes (Petrides & Nodine, 2003). Knowledge may have been inspired by new information systems, but it took human systems to realize it (McDermott, 1999).

Knowledge involved thinking with information (McDermott, 1999). Thinking was at the heart of professional practice. It was key to making information useful. Thinking transformed information into insights and insights into solutions (McDermott, 1999). Knowledge was the product of thinking. To increase the circulation of information was to address only one of the components of knowledge. An effective knowledge management system included both systems for sharing information and forums for thinking (McDermott, 1999).

Knowing was a personal act (McDermott, 1999). Based on the perspective that knowledge resides in people, an important dimension in data driven decision making was the educator and what he/she brought to the process (Light et al., 2004). In schools, teachers were typically not provided ample opportunities to meet with their colleagues to explore findings and develop promising solutions (Petrides & Nodine, 2003). To influence knowledge development, schools needed to enhance both thinking and information. The most natural way to do this was to build communities (McDermott, 1999).

Schools assisted in the management of knowledge by creating communities in which people were actively engaged in sharing what they knew and what they were learning (Petrides & Nodine, 2003). Sharing knowledge involved guiding someone through our thinking or using our insights to help them see their own situation better (McDermott, 1999). To do this we needed to know something about those who would use our insights and the problems they were trying to solve (McDermott, 1999).

There were four main challenges in creating these communities. First, there was a *technical challenge* of designing human and information systems that not only made information available, but also helped community members think together. Second, there was the *social challenge* of developing communities that shared knowledge and still maintained diversity of thought and encouraged thinking rather than sophisticated copying. Third, there was the *management challenge* of creating an environment that truly valued sharing knowledge. Finally, there was the *personal challenge*. People within the school needed to be open to the ideas of others, be willing to share ideas, and maintain a thirst for new knowledge (McDermott, 1999).

By combining human and information systems, educational organizations built a capacity for learning broader than the learning of any of the individuals within it (McDermott, 1999). The accessibility of data and sharing of information induced people to contribute, to participate, to interact, to grow, and to learn (Petrides & Nodine, 2003). Making sense of information that was necessary for success was a crucial step. However, it was just as important to pass on what one learned and knew to others (Petrides & Nodine, 2003). In Table 1.5, Petrides & Nodine (2003) provide two examples of knowledge management approaches from K-12 schools.

Table 1.5: Knowledge Management Approaches by Function

	Data	Information	Knowledge
Integrating Technology into the Curriculum	Teachers meet by grade level to test various software applications that are age-appropriate and subject specific. Each grade level team creates a rubric that outlines what they expect the technology to do for them and the children.	The principal, a member from each grade-level team, and the technology support staff put a plan together to modify the computer lab schedule, purchase and install new software, and offer staff development to meet the needs raised during the sessions with the teachers.	The school-wide team meets bi-monthly to discuss and assess the effectiveness of the technology implementations and makes changes accordingly.
Student Learning	Web-based interactive worksheets provide ongoing assessments of student learning.	Based on assessment results, teachers begin to revise the timeline of classroom activities to better account for student needs.	Teachers meet collaboratively and learn that a handful of children in each class need additional reading skills. They brainstorm effective interventions and take their proposal to the principal.

Note: From *Knowledge Management in Education: Defining the Landscape* (p.16) by L. Petrides and T. Nodine, 2003, Half Moon, CA: Copyright by Institute for the Study of Knowledge Management in Education (ISKME)

1.1.18 Conceptual framework for the study

This review of literature has attempted to establish a framework for understanding the basis for and complexities of incorporating data driven decision making into high-achieving schools to improve instruction and student learning. Accountability has been a focus of educational reform for many years, and collection and reporting of data has been one segment of the accountability process. However, throughout the years, the entities held accountable, the standards by which their accountability was reviewed, the sanctions attached to accountability, and the types of data

required to demonstrate accountability had undergone significant changes. These changes had developed as the federal government became increasingly more active in the area of K-12 public education.

As the literature revealed, the Elementary and Secondary Education Act of 1965 (ESEA) marked a turning point in the federal government's role in improving public schools. According to public law, Title 1 of ESEA was designed to "ensure equal educational opportunity for all children regardless of socioeconomic background and to close the achievement gap between poor and affluent children by providing additional resources for schools serving disadvantaged students" (Public Law 107-110, Section 1001).

The Nation at Risk report of the 1980's brought about a shift in the focus of accountability from inputs to outputs. States began taking a more active role in educational policy. One-step taken was to increase performance standards for both students and teachers. Regulations were decreased in exchange for accountability and results. Schools became the entities held accountable, and achievement of standards became the barometer for success.

Throughout the 1990's, rapid advances in technology supported direct school-to-state reporting and statewide collection of data (Fuhrman & Elmore, 2004). Districts having performance problems faced state takeover. According to Kafer (2004), despite all the accountability rhetoric, accountability provisions were not strongly enforced.

The federal government's steps toward strengthening accountability and identifying achievement standards for all students influenced the 2001 reauthorization of ESEA, the No Child Left Behind Act (NCLB) (Kafer, 2004). NCLB represented a major escalation of the federal government's role in public education, and a switch in focus of accountability from educational opportunity to educational excellence (McDonnell, 2005). NCLB allowed more

flexibility in the use of federal funds in exchange for greater accountability for academic achievement of all students.

As a means to hold districts and schools accountable for student achievement, NCLB required states to develop standards and assess annual yearly progress (AYP) of school districts and schools toward meeting those standards. In Pennsylvania, accountability was based upon reading and mathematics content and achievement standards. The Pennsylvania System of School Assessment (PSSA) was a standard based criterion-referenced assessment used to measure students' attainment of the academic standards.

Participation in and performance on the PSSA was the foundation of measuring AYP. AYP requirements applied to all schools. Schools failing to meet these targets for two or more years were required to complete a School Improvement Plan. This plan asked districts and schools to make data-driven decisions in an effort to improve student achievement. As part of the Improvement Plan, these low-performing schools had to collect and analyze multiple sources of data. The school staff then reflected on the data to acquire insights into the efficacy of teaching and learning for all students.

The knowledge management continuum parallels the steps of the School Improvement Plan. In this process, data, information, and knowledge provide an iterative cycle that recurrently connects back to and helps educators focus on outcomes. Considered broadly, knowledge management in education can be thought of as a framework that enables people within an organization to develop a set of practices to collect information and share what they know, leading to action that improves services and outcomes (Petrides & Nodine, 2003).

Four types of data were shown to be useful in making data-driven decisions in districts and schools. The first type was achievement data. This included data from external assessments,

school-wide assessments, and individual teacher assessments. The other three types of data were instructional data, demographic data, and perception data. However, data was only one aspect of knowledge management. Teachers had to turn the appropriate data into useful information by placing it in a context. The information that resulted could then aid in making knowledgeable decisions.

While School Improvement Plans mandated collection and analysis of data for low-performing schools and applied serious sanctions for schools not meeting AYP requirements, this review of literature revealed that high- performing schools did not have the same data requirements. Without the external demands for data-driven decision- making, high-performing schools may have had little motivation to venture into that area. Furthermore, this review of literature showed that most educators did not have the background to prepare them to engage in systematic inquiry (Herman & Gribbons, 2001). Teachers in high-performing schools may have continued to rely less on data to guide their practice than on intuition, teaching philosophy, or personal experience (Cromey, 2000).

The literature on data driven decision making in education often focused on school improvement. Data is a tool to raise achievement levels of low-performing schools. However, there are several reasons why a study of data driven decision making in high-performing schools would also be useful to educators.

First, the high overall levels of achievement in these schools may mask the needs of the minority of low performing students. Data can help teachers identify these students. In addition, it can help teachers identify the academic strengths and weaknesses of these students. Furthermore, it can help teachers monitor the academic progress of these students. A study of

data driven decision making in high-achieving schools puts the focus on the needs of individual students.

Second, the federal accountability system does not call attention to the problems of instructional quality in high-achieving schools (Elmore, 2005). A study in high-achieving schools can help teachers identify what data is useful in making instructional decisions designed to meet the academic needs of low-performing students. Data can help teachers identify instructional strategies that result in increased student achievement.

Finally, the absence of external pressure may prevent high-performing schools from investing in the resources necessary to facilitate data-driven decision-making. A study in high-performing schools could identify the resources teachers need to be able to use data to make instructional decisions.

2.0   CHAPTER

2.1   METHODOLOGY

2.1.1   Introduction

The accountability mandates of No Child Left Behind (NCLB) have changed the relationship between schools and data. NCLB provides schools with new sources of data and increases the pressure on them to use data to improve school performance.   In response to NCLB, Pennsylvania's low-performing schools are required to use data to develop School Improvement Plans. These plans require schools to collect and analyze multiple sources of data to identify root causes of low achievement.

While the state mandates data-driven action plans for low-performing schools, this is not the case with high-performing schools. Without this accountability component, the extent to which high-performing schools use data is not known. Combined with the fact that historically teachers have based their decisions more on intuition, philosophy, and experience than data, teachers in high-performing schools may engage in data-driven decision making less than teachers do in low-performing schools. If this is the case, then low-performing students may be at a disadvantage in high-performing schools where the state does not mandate data-driven action plans.

In addition, according to (Light et al., 2004), research literature on data to support instructional decision-making is still limited. Based on the literature review done by this researcher, research on data driven decision making has focused on improvements at the school level and not on improvements at the student level. Therefore, even if teachers in high-performing schools aspire to use data to drive their instructional decisions, there is little research to support their efforts.

This study will examine the use of data by teachers to improve the reading achievement of low-performing students in three high-performing, suburban middle schools in Allegheny County, Pennsylvania. More specifically, the researcher will investigate how teachers use data to identify low-performing reading students, identify academic strengths and weaknesses of these students, monitor the academic progress of these students, and make instructional decisions designed to meet the academic needs of these students. Furthermore, the study will investigate the role resources play in the teachers' ability to use data to make instructional decisions.

2.1.2   Statement of the Problem

How are teachers in high-performing, suburban middle schools engaging with data to improve the academic achievement of low-performing reading students, and what data is used to evidence this improvement?

2.1.3   Research questions

1.   What data do teachers use to identify low-performing reading students in high-performing, suburban middle schools?

2.   What data do teachers use for the identification of reading strengths and weaknesses of low-performing students in high-performing, suburban middle schools?

3.   How are teachers in high-performing, suburban middle schools using data to make instructional decisions designed to meet the academic needs of low-performing reading students?

4.   What data do teachers in high-performing, suburban middle schools use to monitor academic progress of low-performing reading students?

5.   What role do resources in high-performing, suburban middle schools play in the teacher's ability to use data to make instructional decisions designed to meet the academic needs of low-performing reading students?

2.1.4   Procedures

1.   Identify high-performing, suburban middle schools.

   The selection of schools for this study will be based on achievement levels of eighth-grade students on the 2004-05 Reading PSSA. Each of the middle schools involved in the study will have scores among the top ten in Allegheny County, Pennsylvania.

2.   Get written agreement of superintendents and middle school principals to provide access to research sites.

   The researcher will meet with each of the superintendents and middle-school principals to acquire their signature on a letter explaining the study.

3.   Prepare to triangulate sources of information.

   a.   The researcher will gather demographic information on the schools and information on the organizational infrastructures in place to accommodate low-performing reading students.

   b.   The researcher will construct a survey instrument to align with the research questions.

   c.   The researcher will construct a semi-structured interview protocol to illuminate, confirm, or dispute the survey findings.

4.   The researcher will meet with an expert from the University of Pittsburgh's Department of Measurement and Evaluation to get feedback on the questionnaire and interview protocol. The researcher will add to, delete from, and/or revise the instruments accordingly.

5.   The researcher will conduct a pilot study of the questionnaire and interview protocol using teachers whose responses will not be included in the study. Following the pilot study, the researcher will add to, delete from, and/or revise the instruments accordingly.

6. Consent letters will be sent to all teachers of reading for the sixth-grade and seventh-grade students in the three middle schools. This will involve approximately forty teachers.

7. The questionnaire will be e-mailed to all teachers of reading for the sixth-grade and seventh-grade students in the three middle schools.

8. Reminders will be e-mailed to teachers who do not complete the questionnaire by the closing date.

9. Based on the number of teachers from each middle school who indicate on the questionnaire their willingness to be interviewed, the researcher will select approximately one sixth-grade reading teacher, one seventh-grade reading teacher, one learning support teacher, and/or one reading support teacher from each school. In addition to willingness to participate, the sample population will be selected based on their level of data use as reported on the survey. Teachers with high and low levels of data use will be selected for the interviews.

10. The researcher will schedule, conduct, and record interviews. The interview will be tape recorded if the participants are willing. Otherwise, the researcher will take notes during the interview process.

11. Teacher responses will be transcribed from the audiotapes if applicable.

12. The results from the surveys will be examined and categorized based on the research questions.

13. The researcher will triangulate findings from the interview to illuminate, confirm, and/or dispute survey responses (See Table 2.1 below).

Table 2.1 Research Questions and Instrumentation Association

Research Questions	Survey Instrument Question(s)	Interview Protocol Question(s)
1. What data do teachers use to identify low-performing reading students in high-performing, suburban middle schools?	**4**	**3**
2. What data do teachers use for the identification of reading strengths and weaknesses of low-performing students in high-performing, suburban middle schools?	**5**	**3**
3. How are teachers in high-performing, suburban middle schools using data to make instructional decisions designed to meet the academic needs of low-performing reading students?	**6, 7, 8**	**3**
4. What data do teachers in high-performing, suburban middle schools use to monitor academic progress of low-performing reading students?	**9**	**3, 4**
5. What role do resources in high-performing, suburban middle schools play in the teacher's ability to use data to make instructional decisions designed to meet the academic needs of low-performing reading students?	**10, 11, 12**	**1, 2, 5, 6, 7, 8**

2.1.5   Definition of Terms

1.   Assessment data -results gathered as evidence of student learning.

2.   Assessment anchors - clarify the standards assessed on the Pennsylvania System of Assessment (PSSA) and can be used by educators to help prepare their students for the PSSA. http://www.pde.state.pa.us/a_and_t/cwp/view.asp?a=108&q=103169

3.   Benchmark test - a measure intended to identify needs, track students' progress, and help predict how students will perform on state assessments. http://www.successforall. net/ayp/4sight.htm

4.   Comprehension test – assessment of students' ability to read and understand text.

5.   Curriculum based test – test that is part of the purchased curriculum program.

6.   Data - a representation of raw material from which information is constructed via analysis or interpretation.

7.   Developmental reading teacher – classroom teacher who provides instruction designed to improve the students' basic reading competencies and increase reading levels.

8. Differentiated instruction – instructional approaches varied and/or adapted to address the academic needs of individual and diverse students in a class.

9. District database - a district wide system of organized data that can be retrieved electronically.

10. Engaging – In this study, engaging includes collecting data, analyzing data, and collaborating with others about data.

11. High-performing middle schools – As used in this study, high-performing middle schools are those schools performing in the top ten in Allegheny County based on student performance on the eighth grade Reading PSSA.

12. Individual teacher developed test – assessment created by a teacher.

13. Individualized materials – materials created or selected to meet the academic needs of an individual student.

14. Informal Reading Inventory (IRI)- individually administered assessment designed to help determine a student's reading instructional needs. IRIs can be used to assess a student's sight vocabulary, word analysis skills, fluency, and comprehension.

15. Instructional decisions – In this study, instructional decisions include modifications to how, when, and which skills are taught; teaching methodology; and grouping of students.

16. Low-performing student – In this study, the definition of a low-performing student will be based on the opinion of each participating teacher.

17. Norm-referenced test – assessment that compares an individual student's performance with a national sample of others in the same grade.

18. Online assessment – web based exam.

19. Oral reading test – assessment that uses student oral reading of word lists or passages to evaluate word accuracy, oral reading rate, and/or comprehension.

20. Pennsylvania System of Assessment (PSSA) – measure of how well students have achieved in reading and mathematics according to Pennsylvania's academic standards. http://www.pde.state.pa.us/a_and_t/cwp/view.asp?a=3&q=115258

21. Pennsylvania Value Added Assessment - a statistical method used to measure progress rates of individual students and groups of students from year to year. http://www.pde.state.pa.us/a_and_t/lib/a_and_t/UnderstandingValueAddedAnalysisupdated.pdf

22. Professional development - teacher learning opportunities including, but not limited to, study groups, workshops, and one-time training sessions.

23. Proficiency level – one of four levels (Advanced, Proficient, Basic, Below Basic) as determined by a student's performance on criterion-referenced assessments used to measure a student's attainment of the Pennsylvania academic standards.

24. Reading support teacher – teacher who provides additional reading instruction to low-performing students.

25. Relevant data – As used in this study, relevant data includes facts of value to teachers in identifying low-performing students and in making instructional decisions.

26. Resources – something that provides assistance or supplies that can be used. In this study, resources include time, professional development, technology, personnel, and data.

27. Special education reading teacher – teacher certified in special education who provides instruction designed to improve the students' basic reading competencies and increase reading levels.

28. Suburban – As used in this study, suburban refers to a residential community outside the city of Pittsburgh, Pennsylvania.

29. Teaching methodology – method used by teacher to provide instruction. In this study, teaching methodologies include but are not limited to lecture, cooperative learning, and student inquiry.

2.1.6 Limitations

The researcher acknowledges that the study will be limited by geographic locale of school sites, teacher population, and subject area targeted. For this study, three high-performing, suburban middle schools will be identified from Allegheny County, Pennsylvania. Since only three schools will be involved in the study, it will not be possible to make generalizations about all high-performing, suburban middle schools.

Within the three middle schools, the study will be limited to teachers of reading for sixth-grade and seventh-grade students. This will be the first year sixth-grade and seventh-grade students will be taking the Reading PSSA. This accountability requirement of the federal No Child Left Behind (NCLB) Act may promote data use by these teachers. As not all subject areas have the same accountability requirements under NCLB, the results of this study should not be

seen as representative of all teachers in the middle schools involved in the study. Furthermore, conclusive statements about the use of data by all teachers of reading in high-performing middle schools should not be made based on the small number of teachers who will be surveyed and interviewed.

This study will not be longitudinal. It will present a snapshot of the use of data by teachers of reading in a sample of high-performing, suburban middle schools during the 2005-06 school year. At the beginning of this school year, the sixth-grade teachers will have scores from their students' fifth-grade Reading PSSA. Since this will be the first year sixth-grade students will be taking the Reading PSSA, seventh-grade teachers will not have scores from the previous year. The future availability of sixth-grade Reading PSSA scores may influence their use of data.

3.0   CHAPTER

3.1   DESCRIPTION OF FINDINGS

3.1.1   Introduction

According to public law, Title 1 of the Elementary and Secondary Education Act (ESEA) was designed to ensure equal educational opportunity for all children (Public Law 107-110, section 1001).   The *Nation at Risk* report of the 1980's brought about a shift in the focus of accountability from educational opportunity to educational achievement.   The 2001 reauthorization of ESEA, the No Child Left Behind (NCLB) Act, strengthened the accountability requirements placed on schools and districts for academic achievement.   Data from state assessments was the means by which schools and/or districts were held accountable.

The NCLB accountability system focused on overall levels of student achievement and achievement of designated subgroups of students. However, within this accountability system, the existence and needs of low-performing students who did not comprise a subgroup for accountability purposes could be hidden in schools with high overall levels of student achievement.

Low-performing students in high-performing schools may have been at an added disadvantage if schools and/or districts did not provide resources to support the academic improvement of these students.   Through data-driven action plans, the state required low-

performing schools to provide certain resources to their teachers. These plans included collection and analysis of student data, reflection on educational practices, professional development, and monitoring of progress. Compliance with these requirements could involve data warehouses, training in data acquisition and analysis, and professional development on best practices. Lack of external demands for data-driven decision-making combined with overall high-performance may have provided little incentive for high-performing schools to invest in data-driven decision-making to improve the academic achievement of a minority of low-performing students.

This study examined the use of data by teachers in three high-performing middle schools to improve reading achievement of low-performing students. Several methods were used to answer the problem statement, "How are teachers in high-performing, suburban middle schools engaging with data to improve the academic achievement of low-performing reading students, and what data is used to evidence this improvement?"

For the purpose of this study, the school was the basic unit of analysis. The selection of schools to be included in the study was based on the achievement levels of eighth-grade students on the 2004-05 Reading PSSA (Pennsylvania System of School Assessment). Each of the middle schools involved had scores among the top 10 in Allegheny County, Pennsylvania, based on the percentage of students at the advanced or proficient levels. As evidenced by the student population figures included in each school's description, the three case study schools included a relatively small, a medium, and a large school.

The 2004-05 Reading PSSA Achievement levels of eighth-grade students in each of the three case study schools was acquired from the Pennsylvania Department of Education web site

(Pennsylvania Department of Education, 2005b). Additionally, general information about the reading programs in each of the schools was gained from conversations with staff members.

Within each of the three schools, teachers of sixth-grade and/or seventh-grade reading were targeted for study. Reading was chosen as the content area because it was an area for which schools were held accountable under NCLB for annual yearly progress (AYP) based on student performance on state assessments. In addition, it was the belief of the researcher that teachers of reading, in general, engaged more frequently with data than did teachers of other subject areas. Teachers of sixth grade and/or seventh grade were included to provide a contrast between the data used by a grade level of teachers who had PSSA scores from the previous year for their students and a grade level of teachers who did not have these scores.

This study was conducted during the 2005-06 school year. At that time, the middle school teachers had the 2004-05 Reading PSSA scores from fifth grade and eighth grade. The 2005-06 school year was the first time the students of these sixth and seventh grade teachers took the Reading PSSA.

The survey for this study (Appendix B) was e-mailed to 43 reading teachers of grade six and/or grade seven students. The list of teachers to whom the survey was distributed was obtained from staff in each building. Thirty-two of the 43 teachers who received the survey completed it. Therefore, the participation rate was 74.4%. Of the teachers who did not complete the survey, three responded in an e-mail that they did not teach reading, and two others responded by e-mail that they did not teach low-performing reading students. Through information gained from interviews, the researcher discovered that five of the other teachers who did not respond also did not teach low-performing reading students.

Of the 32 teachers who completed the survey, 16 teachers volunteered to be interviewed. Based on the response rate, the researcher decided to interview all the teachers who volunteered. This made the interview rate 37% of all teachers sent the survey and 50% of all teachers who completed the survey.

In school A, four of the six teachers surveyed volunteered to be interviewed. Of those interviewed, one was a grade six/seven learning support teacher, one was a grade eight learning support teacher who had previously taught the same students in grade seven learning support (this teacher's responses were included with the grade seven results), one was a grade six language arts teacher, and one was a grade seven language arts teacher.

In school B, five of the eight teachers who completed the survey volunteered to be interviewed. Two of the teachers interviewed were sixth-grade reading teachers, two were seventh-grade reading teachers, and one was a sixth-grade learning support teacher.

In school C, 6 of the 18 teachers who completed the survey were interviewed. One was a sixth-grade reading teacher, one was a sixth-grade language arts teacher, three were sixth-grade reading support teachers, and one was a seventh-grade learning support teacher.

3.1.2 Description Of Reading Programs In The Three Case Study Middle Schools

While each of the three case study middle schools was classified as high achieving, differences were evidenced in the way each school addressed the needs of their low-performing reading students. Among the observed differences were the criteria used to identify low-performing students, grouping of reading students, additional services provided to low-performing reading students, and certification of teachers working with low-performing reading students.

Although the school was the basic unit of study, analysis of data from surveys and interviews at times was reported by grade level or regular education/special education. This was the case when a discrepancy surfaced between the responses from these groups of teachers.

3.1.2.1 *Description of School A*

School A was a suburban middle school south of the city of Pittsburgh housing grades five, six, seven, and eight. The results from the 2004-05 Reading PSSA indicated that 89.7% of the eighth-grade students that year were at the advanced or proficient level. The school's total enrollment for the 2005-06 school year was 609 students making it the smallest of the three case study schools. There were approximately 150 students per grade level. The students were placed on academic teams at each of the four grade levels.

Reading was taught as part of an 80-minute language arts block in grades five, six, and seven. The language arts block for grade eight was 60 minutes in length. The fifth-grade and sixth-grade language arts teachers were elementary certified. The seventh-grade and eighth-grade language arts teachers had Mid-Level English certification.

Students in this school were heterogeneously grouped for reading with the exception of one sixth-grade reading class that was taught by the Instructional Support Teacher. This class contained 20 students. Placement in this class was based on the students' fifth-grade performance on the Terra Nova norm-referenced test and PSSA. This class had the same curriculum as the other sixth-grade language arts classes. However, the class size was smaller, and the teacher was a certified reading specialist. This teacher had also been trained through the Allegheny Intermediate Unit in Reading Achievement Center strategies. Some of the students in this class also attended an after school, reading tutoring program twice a week for 35 sessions.

All students in this middle school took the 4Sight benchmark assessment three times during the 2005-06 school year. Students who attended the after school tutoring program took the 4Sight assessment two additional times for a total of five times during the 2005-06 school year. In addition to the state assessment, students in grades five and seven took the Terra Nova norm-referenced test.

3.1.2.2 *Description of School B*

School B was a suburban middle school north of the city of Pittsburgh housing grades six, seven, and eight. The results from the 2004-05 Reading PSSA indicated that 92.9% of the eighth-grade students that year were at the advanced or proficient level. The total enrollment for the 2005-06 school year was 745 students, which placed it in the middle of the three schools based on size of student population. The students were randomly placed on academic teams for grades six and seven. Each of these grade levels had two teams with approximately 125 students per team.

Sixth-grade students and seventh-grade students took reading as one of their five core subjects. Reading class was 42 minutes in length. All the reading teachers were certified reading specialists. In addition to the instruction they received in reading class, low-performing students were pulled from study halls to receive reading support one to two times per week. Placement in reading support was based on the students' fifth grade performance on the Stanford Achievement Test (SAT), their fifth grade performance on the Reading PSSA, and their teachers' recommendations.

Eighth-grade students in School B took either a foreign language or reading. Some of the eighth-grade reading students had elected to take reading; others were placed in eighth-grade reading due to teacher recommendations.

In addition to taking the Reading PSSA, all the students in this school took the Stanford Achievement Test during the 2005-06 school year.

3.1.2.3 *Description of School C*

School C was also a suburban middle school north of the city of Pittsburgh housing grades six, seven, and eight. The results from the 2004-05 Reading PSSA indicated that 84.8% of the eighth-grade students that year were at the advanced or proficient level. While in 2004-05 this school had scores among the top ten in Allegheny County, Pennsylvania based on the percentage of students at the advanced or proficient levels, previously this school had been placed on the state warning list due to the low performance of the eighth-grade students with Individualized Education Plans (IEPs).

The total enrollment for the 2005-06 school year was approximately 1080 students which made it the largest school in the study based on size of student population. The students were placed on academic teams for grades six, seven, and eight. There were approximately 105 students per team.

Grade six had three teams. Each of these teams consisted of a language arts teacher, a science teacher, a social studies teacher, a mathematics teacher, a reading support teacher, and an educational support teacher. The educational support teachers had special education certification. Each of the reading support teachers was a certified reading specialist.

School C was the only Title 1 school in the study. This label indicated a larger percentage of students receiving free or reduced lunch. The reading support teachers were funded through federal Title 1 monies. As a result, they were accountable for providing periodic assessment results to the state and showing individual student growth on these assessments.

In grade six, the reading support teacher administered a series of assessments to identify the low-performing reading students. These assessments included the Gates McGinite, Slosson, San Diego Reading Placement Test, Ekwal-Shanker Informal Reading Inventory, and Jamestown Publisher's curriculum based assessment. After the reading support teachers completed Title 1 testing, the low-performing students were homogeneously grouped. The team's language arts teacher and reading support teacher co-taught a class of these students.

The other team teachers taught the sixth-grade reading students who were not identified as low performing. The team's science, social studies, and math teachers each taught one reading class. The educational support teachers taught resource reading, language arts, or math across teams to students with Individualized Education Plans (IEPs).

In addition to co-teaching reading with the language arts teacher, the reading support teacher co-taught with the other content area teachers to support reading in the content areas. They also taught a small-group, reading review class for low-performing reading students who were not in the resource reading class.

Grade seven also had three teams consisting of a language arts teacher, a science teacher, a social studies teacher, a mathematics teacher, a reading teacher, and an educational support teacher. However, in seventh grade, the reading teachers were all reading specialists who taught all of the reading classes. Students were heterogeneously grouped for reading in seventh grade.

There was one additional team of teachers. These teachers taught both sixth-grade and seventh-grade students. Those teachers had a schedule that was half sixth grade and half seventh grade. One of the eighth grade educational support teachers taught one of the sixth grade reading classes for this team. There were no students with IEPs placed on this team.

Eighth grade had four teams consisting of a language arts teacher, a science teacher, a social studies teacher, a mathematics teacher, and an educational support teacher. Students in eighth grade took a foreign language instead of reading. However, one class of eighth grade students recommended by their teachers took reading in place of a foreign language.

In addition to the PSSA, students in grades six and seven took the IOWA Test in 2004-05. However, this test was not administered to any of the middle school students in School C in the 2005-06 school year.

3.1.3   Survey Demographic results

The first three questions on the survey (Appendix B) dealt with demographic information for the participants. Though 32 surveys were completed, three teachers indicated they taught more than one grade level. Of the 32 teachers who responded to the survey, 21 indicated they taught sixth-grade reading and 14 indicated they taught seventh-grade reading.

In addition, one teacher responded that he/she taught both regular education and special education reading classes. Twenty-three teachers responded that they taught regular education reading classes. Ten teachers indicated they taught special education reading classes. Based on information gathered during the interviews, the researcher included reading support teachers in the regular education population.

Survey data from Questions 4 through 12 was calculated as an overall score. In addition, the data was disaggregated by school, grade level, and regular education/special education. This data appears with the corresponding research questions.

3.1.4   Research Question One: Findings

The first research question asked, "What data do teachers use to identify low-performing reading students in high-performing, suburban middle schools?" Question 4 of the survey addressed this research question. It asked teachers to select from a list of various assessment data those they used to identify low-performing reading students. Several of the options listed in question 4 assessed the same reading skills such as comprehension, fluency, and/or vocabulary, but teachers were requested to identify the tool they used to evaluate student acquisition of these skills. Some of the options involved the same assessment tool, but teachers were asked to identify the outcome metrics they used to identify low-performing students. Research question 4 was further addressed through teacher interviews.

A larger number of the surveyed teachers used a variety of data to identify low-performing reading students. Of the 32 teachers who responded to this question, 31 teachers used three or more of the listed assessments to identify their low-performing reading students. This outcome was further supported by a teacher who stated in the interview that, "You can't use one silver bullet for anything, and you can't just use one score."

The only teacher who did not identify at least three assessments used to identify low-performing reading students did not select any of the given assessments. This teacher was a special education teacher who added in the "other" category that he/she used evaluations by the school psychologist to identify low-performing reading students.

Twenty-four of the 32 survey participants responded that they used overall reading proficiency level on the PSSA to identify their low-performing reading students. The same number of teachers indicated they used results from comprehension tests. Twenty-two of the participants used grades on curriculum-based tests. Twenty teachers used results from oral

reading tests. Nineteen responded that they used report card grades. Eighteen teachers used performance assessments such as portfolios, projects, and presentations. Seventeen teachers used grades from individual teacher-developed tests. Sixteen participants used the grade equivalent on a norm-referenced test. Thirteen used results from informal reading inventories. Twelve teachers indicated they used the proficiency level for specific reading anchors on the PSSA. Twelve also specified other assessments they used. Eight teachers used the stanine from a norm-referenced test. The same number of teachers used results from a benchmark test. Only 2 of the 32 survey participants used results from online assessments. None of the teachers used Pennsylvania Value Added Assessment growth reports. Of the 32 teachers who completed the survey, none responded that they used no assessment data to identify their low-performing reading students..

Figure 3.1 below shows the overall results from Question #4 of the survey. The "Response Total" is out of a possible 32 respondents.

4.   Which of the following assessment data do you use to identify low-performing reading students? Please select all that apply.

		Response Percent	Response Total
Grade equivalent on norm-referenced test (SAT, Terra Nova, etc.)		50%	16
Stanine on norm-referenced test		25%	8
Overall reading proficiency level on PSSA		**75**%	**24**
Proficiency level for specific reading anchor on PSSA		37.5%	12
Growth from Pennsylvania Value Added Assessment System (PVAAS)		0%	0
Results of benchmark test (4Sight, etc)		25%	8
Results from online assessment (Homeroom.com, Study Island, etc.)		6.2%	2
Report card grade		59.4%	19
Grade on curriculum based test		68.8%	22
Grade from individual teacher developed test		53.1%	17
Performance on portfolio, project, presentation, etc.		56.2%	18
Results from informal reading inventory (IRIs)		40.6%	13
Results from oral reading test		62.5%	20
Results from comprehension test		**75**%	**24**
None		0%	0
Other (please specify)		37.5%	12
	Total Respondents		**32**
	(skipped this question)		0

Figure 3-1 Survey Results for Question #4

The assessments specified in the "Other" category are displayed in Table 3.1.

Table 3.1: Survey Results for Question 4, Other

	Response %	Response Total
Brigance	6.20	2
BASIS (Basic Achievement Skills Individual Screener)	3.10	1
IEP (Individualized Education Plan)/ER (Evaluation Report)	3.10	1
WRAT (Wide Range Achievement Test)	6.20	2
SRA Fluency Assessment	3.10	1
Great Leaps Fluency	3.10	1
STAR Reading	6.20	2
Previous reading teacher recommendations	6.20	2
TOTAL		12

Two seventh-grade teachers from School B added STAR Reading to the list of assessment tools used to identify low-performing reading students. During the interviews, one of these teachers stated that he/she used STAR the most "because it'll give me a comparison of the class that I have currently." It appeared that for this teacher from a high-performing school, low-performance was a relative term.

He/she added that with STAR you can "just type in a name and get one name to look at." He/she did not use the SAT results as frequently because they were kept in the guidance office and were not on one clear printout sheet. He/she would have to have gone through 120 sheets to get scores for each of his/her current students. The issue of easy access to data was addressed further in research Question #5.

Special education teachers from School B and School C added all of the remaining assessments included in the "Other" category. Special education teachers from School B added the BASIS and WRAT assessment tools. Special education teachers from School C added the Brigance, SRA, and Great Leaps tests. Additionally, special education teachers from School C

indicated that they used Individual Education Plans, Evaluation Reports, and recommendations from previous reading teachers.

Based on the overall results represented in Figure 3.1, teachers used data from comprehension tests and the overall reading proficiency level on the PSSA most often to identify low-performing reading students. Twenty-four out of the 32 survey participants, or 75% of the teachers, used each type of data.

The overall results were disaggregated, and Table 3.2 shows frequency and percentage of teachers in each of the three schools who used data from comprehension tests to identify low-performing reading students. In School B, teachers were less likely to use results from a comprehension test to identify low-performing reading students than the teachers in the other two schools did. Twenty-five percent of the teachers in School B, or two of the eight teachers, used results from comprehension tests to identify their low-performing reading students. In contrast, 100% of the teachers in School A and 88.9% of teachers in School C used this data.

Table 3.2: Survey Results by School for Question 4, Results from comprehension test

	School A			School B			School C	
	Frequency	%		Frequency	%		Frequency	%
Not checked	0	0		6	75		2	11.1
Checked	6	100		2	25		16	88.9
Total	6	100		8	100		18	100

One seventh-grade reading teacher in School B stated in his/her interview that the reading teachers used to give the Gates McGinite for comprehension and vocabulary assessment. The school eliminated this testing; nevertheless, he/she felt the data it provided had been useful and would welcome the return of this comprehension assessment.

The special education teacher from School B stated in the interview that he/she used SRA for a "quick review" of his/her students but relied heavily on the BASIS skills inventory to identify his/her low-performing students.

In School A, the two special education teachers interviewed stated that they use the Peabody Individual Achievement Test (PIAT) and SRA reading comprehension tests. All four of the teachers interviewed from School A reported use of the scores from the Terra Nova test.

In School C, the teachers interviewed identified several comprehension assessments they used. Among those mentioned by School C teachers were the Gates McGinite, the Ekwall-Shanker Informal Reading Inventory, and a Curriculum Based Assessment (CBA) from Jamestown Publishing.

Table 3.3 shows frequency and percentage of teachers in each of the three schools who used overall reading proficiency levels on the PSSA to identify low-performing reading students. While 100% of the reading teachers in School A who participated in the survey reported using this data to identity their low-performing students, one of these teachers reported in the interview that he/she does not really look at the PSSA. He/she stated, "To me the PSSA doesn't really shed a whole lot of light on where the student is right now."

Table 3.3: Survey Results by School for Question 4, Overall reading proficiency level on PSSA

	School A			School B			School C	
	Frequency	%		Frequency	%		Frequency	%
Not checked	0	0		4	50		4	22.2
Checked	6	100		4	50		14	77.8
Total	6	100		8	100		18	100

In School B, 50% of the reading teachers who participated in the survey reported using overall reading proficiency level on the PSSA to identity their low-performing students. The special education teacher interviewed stated that he/she had "not used the PSSA information."

School C had 77.8% of the teachers reporting use of the PSSA to identify low-performing reading students. School C was a Title 1 school with a homogeneously grouped reading class of low-performing students on each of the four sixth-grade teams. This reading review class was co-taught by the team's language arts teacher and the Title 1, reading support teacher. The reading support teacher from each team was responsible for identifying low-performing reading students for the reading review class.

During the interviews, one of the reading support teachers stated that while he/she looked at many indicators of student performance to determine placement in the reading review class, the PSSA was the "tail that wagged the dog." If a student was basic or below basic on the PSSA, he/she was placed in the reading review class. In contrast, another reading support teacher in this building stated that the PSSA is "a good tool to see the overall picture but not for placing kids in a specific reading program."

As illustrated in Table 3.4, in each of the three schools, a lower percentage of teachers used the PSSA proficiency level for specific reading anchors than used the overall reading proficiency level on the PSSA. Perhaps teachers did not place as much value on the results of specific anchors because they did not feel they accurately depicted the current levels of their students. The sixth-grade teachers did not receive the fifth-grade PSSA results for their students until after the school year had begun. In addition, since the sixth-grade students did not take the reading PSSA during the previous year, the seventh-grade teachers had to rely on their students' fifth grade PSSA scores.

Table 3.4: Survey Results by School for Question 4, Proficiency level for specific reading anchor on PSSA

	School A			School B			School C	
	Frequency	%		Frequency	%		Frequency	%
Not checked	1	16.7		7	87.5		12	66.7
Checked	5	83.3		1	12.5		6	33.3
Total	6	100		8	100		18	100

As shown in Table 3.5, 100% of the teachers in School A used grade-equivalent on norm-referenced tests to identify low-performing students. This was in stark contrast to Table 3.6 that shows 0% of the teachers in School A used the stanine from norm-referenced tests to identify low-performing students. Perhaps these teachers shared the view of one of the School B teachers who stated in the interview that grade-equivalent scores helped the most because stanines and percentiles didn't translate to his/her day-to-day teaching and didn't mean a whole lot to him/her.

Table 3.5: Survey Results By School For Question 4, Grade Equivalent On Norm-Referenced Test

	School A			School B			School C	
	Frequency	%		Frequency	%		Frequency	%
Not checked	0	0		2	25		14	77.8
Checked	6	100		6	75		4	22.2
Total	6	100		8	100		18	100

Table 3.6: Survey Results by School for Question 4, Stanine on norm-referenced test

	School A			School B			School C	
	Frequency	%		Frequency	%		Frequency	%
Not checked	6	100		3	37.5		15	83.3
Checked	0	0		5	62.5		3	16.7
Total	6	100		8	100		18	100

In School A, all students in grades five, six, and seven took the Terra Nova norm-referenced test during the 2004-05 school year. One of the reading teachers interviewed from School A stated that the Terra Nova was a more valuable assessment to him/her than the PSSA.

Another teacher from this school felt that with the Terra Nova scores he/she was able to target the students in need right away. A third reading teacher from School A stated in the interview that he/she used the Terra Nova and PSSA to identify their low-performing reading students. He/she liked the breakdown of skills reported by the Terra Nova and identified as low performing those students who were below the fiftieth percentile nationwide.

Seventy-five percent of the reading teachers in School B used grade equivalent from norm-referenced test to identify low-performing reading students. During the 2004-05 school year, School B students in grades five through eight took the Stanford Achievement Test (SAT). This test was not given to fifth-grade students during the 2005-06 school year, and some of the teachers interviewed expressed concern over not having this data in the future.

During the interviews, both of the sixth-grade reading teachers and one of the seventh-grade reading teachers in School B found the SAT data useful for identifying low-performing students. One seventh-grade teacher remarked that he/she probably should look at all of the students' PSSA scores and achievement test scores at the beginning of the year. However, he/she does not look at the achievement test scores unless she has a problem with a student. One of the sixth-grade reading teachers stated that he/she used the SAT data "as a baseline" and then did his/her own assessment from there.

The seventh-grade reading teachers in School B relied on use of the SAT scores at the end of seventh grade as one indicator of placement in eighth grade reading. In eighth grade, students in School B took either reading or a foreign language. The seventh-grade reading teachers recommended low-performing reading students for eighth-grade reading. In addition, students were able to elect reading in the eighth grade.

While 100% of teachers responding to the survey from School A and 75 % of teachers responding to the survey from School B reported using grade equivalent from norm-referenced tests to identify their low-performing reading students, 22% of the teachers in School C who responded to the survey reported using this data to identify their low-performing reading students.

The explanation for this discrepancy became clear during the interviews. Prior to the 2004-05 school year, students in fifth grade took the Iowa Test. Since fifth-grade students took the Reading PSSA and Mathematics PSSA, the Iowa Test was eliminated to avoid over testing at that grade level.

Throughout the teacher interviews, all of the sixth-grade reading teachers in School C expressed frustration with the lack of scores from a norm-referenced test for their students entering sixth grade. According to the reading support teachers, they had depended heavily on results from the Iowa Test to identify their low-performing students. In addition, they felt the sub scores this test provided were valuable in determining a student's areas of deficiency.

One teacher from School C stated, "It's difficult too because the Iowas are sort of tried and true. I mean you have these norms developed over a long period of time, so you feel like there's a fair amount of integrity about the test. Then you come in with the PSSAs, and it's been year after year of tweaking it and tweaking it. And this is what we're using, is these high stakes tests to measure student achievement. And it's not very easy to interpret them either. You get a score, but it's like, 'What do I do? How good it this? How valid is it? How do I use it to assess?' We can't use it very well to then assess individual needs."

Due to the absence of scores from the Iowa Test, the sixth-grade Title 1, reading support teachers reported administering a number of tests to the sixth grade students during the first few

weeks of school. The reading support teachers used these tests to identify the low-performing

reading students and to determine placement in the reading review class. The Title 1 teachers

created reading assessment cards to gather information from the elementary teachers about the

upcoming sixth grade students. On the card, the elementary teachers indicated students who

were in Title 1 reading the previous year and/or students who were invited to attend a summer

reading program between fifth-grade and sixth-grade. Next, they listed the students' fifth-grade

report card grades and scores from any prior assessments.

This initial screening based on the information from the reading assessment cards was

followed by the administration of the comprehension section of the Gates McGinite reading test

and a curriculum based assessment (CBA) to all sixth-grade students. One of the sixth-grade

reading support teachers stated that he/she would like to have the Gates McGinite administered

at the end of fifth grade.

Following these initial assessments that were administered to all sixth-grade students, the

reading support teachers administered the word identification section of the Slosson Oral

Reading Test, the San Diego Reading Placement Test, and the Ekwal-Shanker Reading Inventory

to select students.

As shown in Table 3.7, the lack of a norm-referenced test resulted in School C teachers

using informal reading inventories more frequently than did the teachers in the other two

schools. In School C, 61% of the teachers used informal reading inventories to identify their

low-performing reading students. This type of assessment was not used by any of the teachers

in School A. It was used by 25% of the teachers in School B.

One of the sixth-grade reading teachers and one of the seventh-grade reading teachers in

School B expressed a desire to have results from an informal reading inventory to help them

identify low-performing reading students. However, as this sixth-grade teacher added, "With 120 students it's not feasible to conduct an IRI on every student at the beginning of the year."

Table 3.7: Survey Results By School For Question 4, Results From Informal Reading Inventory

	School A			School B			School C	
	Frequency	%		Frequency	%		Frequency	%
Not checked	6	100		6	75		7	38.9
Checked	0	0		2	25		11	61.1
Total	6	100		8	100		18	100

Teachers from School A indicated a higher use of results from benchmark tests and online assessments than teachers in the other two schools did. All students in School A took the 4Sight benchmark test three times during the 2005-06 school year. Students who attended an after-school tutoring program took the 4Sight test two additional times for a total of five times during the 2005-06 school year. Homeroom.com was identified as one of the online assessments used in School A.

Neither of the other two schools administered the 4Sight test. However, students in School C were assigned writing prompt to be completed at home as practice for the PSSA. An interdisciplinary scoring team read and scored the students' work. Language arts teachers were then to use results from this practice assignment in review activities in class.

As the following tables indicate, a smaller percentage of special education teachers used grades from individual teacher-developed tests and performance assessments than were used by regular education teachers while a higher percentage of special education teachers used results from oral reading tests.

Table 3.8: Survey Results by Teacher Category for Question 4, Grade from individual teacher-developed test

	Regular Ed.			Special Ed	
	Frequency	Percent		Frequency	Percent
Not checked	8	34.8		7	70
Checked	15	65.2		3	30
Total	23	100		10	100

Table 3.9: Survey Results by Teacher Category for Question 4: Performance on portfolio, project, presentation, etc.

	Regular Ed.			Special Ed	
	Frequency	Percent		Frequency	Percent
Not checked	7	30.4		8	80
Checked	16	69.6		2	20
Total	23	100		10	100

Table 3.10: Survey Results by Teacher Category for Question 4, Results from oral reading test

	Regular Ed.			Special Ed	
	Frequency	Percent		Frequency	Percent
Not checked	11	47.8		1	10
Checked	12	52.2		9	90
Total	23	100		10	100

While special education teachers have Individualized Education Plans for their students and assessment data from the school psychologist, during interviews, special education teachers identified other assessments they use to identify low-performing students. In School A, special education teachers stated they use data from the Peabody Achievement Test (PIAT) and Read Naturally in addition to the PSSA and Terra Nova.

The special education teacher interviewed from School B stated he/she relies "heavily on the BASIS skills inventory." He/she also looked at SAT scores from fifth grade. Two other special education teachers in this building responded on the survey that they used evaluations by the school psychologist, oral reading tests, individual teacher-developed tests, and the WRAT to identify low-performing reading students.

The special education teacher interviewed from School C stated that he/she relied on data from Individualized Education Plans in addition to the Brigance, Great Leaps and SRA assessments to identify low-performing reading students.

None of the teachers who participated in this study reported using the Pennsylvania Value Added Assessment System (PVAAS). This was true throughout all the questions on the survey. This data may become more valuable to teachers once the state starts distributing comprehensive reports to all districts during the 2006-07 school year.

3.1.5   Research Question Two: findings

The second research question asked, "What data do teachers use for identification of reading strengths and weaknesses of low-performing reading students in high-performing, suburban middle schools?" Question #5 of the survey addressed this research question. It asked teachers to select from a list of various assessments those that provided the data they used to identify reading strengths and weaknesses of previously identified low-performing reading students. Several of the options listed in Question #5 assessed the same reading skills such as comprehension, fluency, and/or vocabulary, but teachers were requested to identify the tool that provided the data they used to evaluate student acquisition and/or deficiency of these skills. Research question 5 was further addressed through teacher interviews.

In response to survey Question #4, all of the teachers who participated in the study reported that they used data to identify low-performing reading students. However, assessment data had value to these teachers beyond this initial identification. Teachers further used data to identify the reading strengths and weaknesses of these students. Clearly, not all low-performing students have the same reading deficits. Likewise, all low-performing students have some

reading strengths. As one teacher expressed in the interview, everybody has a weak area in reading no matter how proficient he or she is, and everybody has an area of strength.

As several of the special education teachers pointed out, their reading students had already been identified as low performing. Whereas the initial goal of regular education teachers was to identify their low performing reading students, special education teachers began the school year with different objectives. At the beginning of the school year, the special education teacher's goal was to identify areas of strength and weakness in each student and to establish a base line from which to monitor individual progress.

In response to this survey question, all of the teachers indicated they used a variety of data to identify the reading strengths and weaknesses of their low-performing students. Comprehension tests, which at 75% were among the top two assessments used for identifying low-performing students, were the most frequently used test for identifying reading strengths and weaknesses. Twenty-nine of the 32 participants or 90.6% responded that they used comprehension tests to identify strengths and weaknesses of their low-performing reading students.

Furthermore, comprehension tests continued to be the most prevalent assessment tool used for identifying strengths and weaknesses in each school and by teachers at each grade level. One hundred percent of the teachers in School A, 87.5% of the teachers in School B, and 88.9% of the teachers in School C indicated they used comprehension tests to determine students' reading strengths and weaknesses.

Table 3.11: Survey Results by School for Question #5, Comprehension Test

	School A			School B			School C	
	Frequency	Percent		Frequency	Percent		Frequency	Percent
Not checked	0	0		1	12.5		2	11.1
Checked	6	100		7	87.5		16	88.9
Total	6	100		8	100		18	100

The majority of both sixth-grade and seventh-grade teachers used data from comprehension tests to identify the reading strengths and weaknesses of their low-performing students. Of the sixth-grade teachers completing the survey, 85.7% designated they used comprehension tests to determine students' reading strengths and weaknesses. Comprehension tests were used by 92.9% of seventh-grade teachers for this purpose.

Table 3.12: Survey Results by Grade Level for Question #5, Comprehension test

	Grade 6			Grade 7	
	Frequency	Percent		Frequency	Percent
Not checked	3	14.3		1	7.1
Checked	18	85.7		13	92.9
Total	21	100		14	100

The survey results were further disaggregated using responses given by regular education teachers and special education teachers. A higher percentage of regular education teachers used data from comprehension tests to identify reading strengths and weaknesses than used data from any of the other given assessments. Eighty seven percent of the regular education teachers who completed the survey used this assessment data. This assessment data was also used by a high percentage of special education teachers. Ninety percent of the special education teachers indicated they used data from comprehension tests to identify reading strengths and weaknesses of low-performing reading students. The only assessment data used more prevalently among special education teachers was from oral reading tests. Data from oral reading tests was used by 100% of the special education teachers.

Table 3.13: Survey Results By Teacher Category For Question #5, Comprehension Test

	Regular Ed.			Special Ed	
	Frequency	Percent		Frequency	Percent
Not checked	3	13		1	10
Checked	20	87		9	90
Total	23	100		10	100

Figure 3.2 shows the overall results from question 5 of the survey. The "Response Total" is out of a possible 32 respondents.

5. Once you have identified low-performing students, which of the following assessment data do you use to identify their reading strengths and weaknesses? Please select all that apply.

	Response Percent	Response Total
Norm-referenced test (SAT, Terra Nova, etc.)	31.2%	10
PSSA	40.6%	13
Benchmark test (4Sight, etc.)	18.8%	6
Online assessment (Homeroom.com, Study Island, etc.)	6.2%	2
Curriculum based unit test	53.1%	17
Individual teacher developed test	71.9%	23
Performance test (portfolios, projects, presentations, etc.)	56.2%	18
Informal reading inventory	43.8%	14
Oral reading test	68.8%	22
Comprehension test	90.6%	29
None	0%	0
Other (please specify)	21.9%	7
Total Respondents		32
(skipped this question)		0
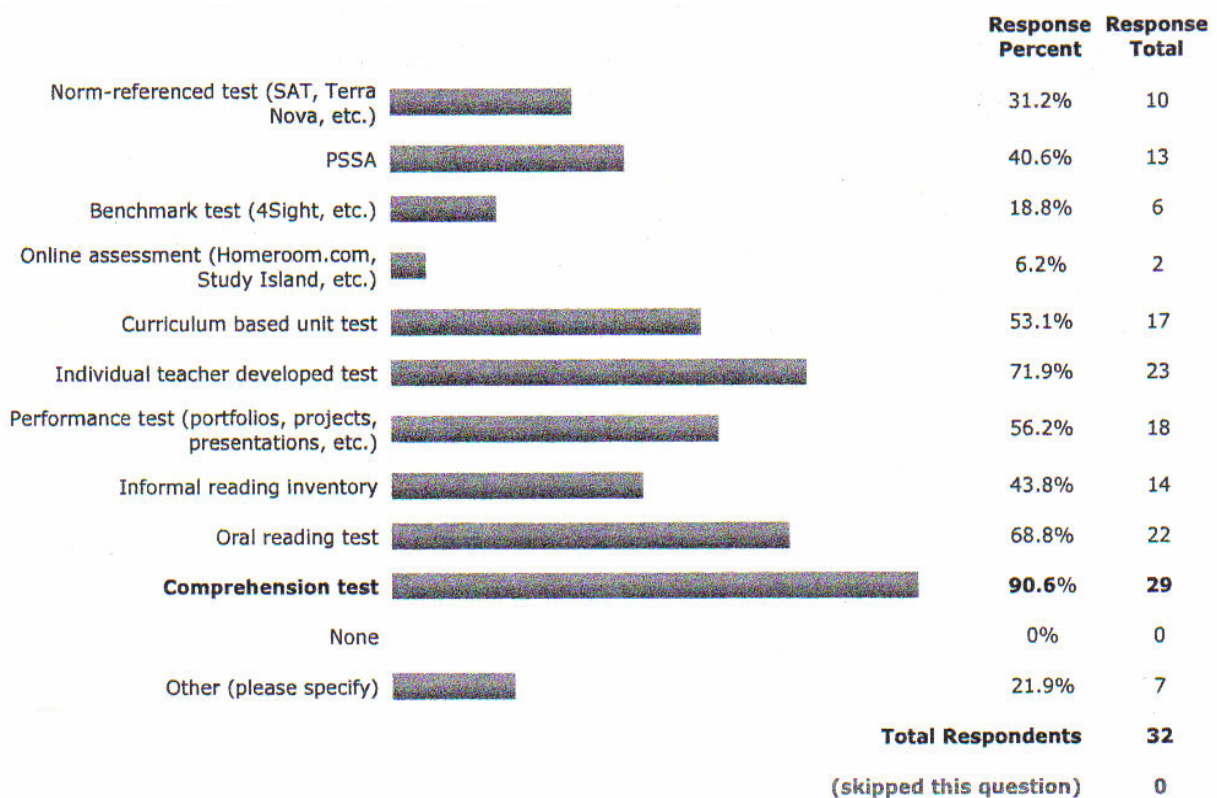
Figure 3-2: Survey Results for Question #5

The assessments specified in the "Other" category are displayed in Table 3.14.

Table 3.14: Survey Results for Question #5, Other

	Response Percent	Response Total
Brigance	6.20%	2
BASIS (Basic Achievement Skills Individual Screener)	3.10%	1
IEP(Individualized Education Plan)/ER (Evaluation Report)	3.10%	1
CBA (Curriculum Based Assessment)	3.10%	1
SRA /Great Leaps	3.10%	1
Classroom performance	3.10%	1
	Total	7

One sixth-grade teacher from School B added classroom performance to the list of assessments used to identify strengths and weaknesses of low-performing reading students. Special education teachers from School B and School C added all of the remaining assessments included in the "Other" category. Special education teachers from School B added the BASIS assessment. Special education teachers from School C added the Brigance, CBA, SRA, and Great Leaps tests. Additionally, a special education teacher from School C indicated that he/she used Individual Education Plans and Evaluation Reports to identify strengths and weaknesses of low performing reading students. Throughout the interviews, special education teachers and regular education teachers reiterated that they could gain a wealth of information from a student's IEP when applicable.

In addition to the assessments added in the "Other" category, teachers who participated in the interviews identified several additional comprehension tests they used. Teachers from School C used a curriculum-based assessment from Jamestown Publishing and/or Ekwall-Shanker Interest Inventories. In addition, the Gates-McGinite had been used to assess student comprehension in School C. PSSA Coach was a comprehension test used by teachers in School A.

While the majority of teachers used data from comprehension tests to both identify low performing reading students and determine their strengths and weaknesses, that was not the case with the PSSA. Although as many teachers used the PSSA as comprehension tests to identify low-performing reading students, the PSSA appeared to be less useful than comprehension tests as a tool for identifying reading strengths and weaknesses. Whereas 75% of the participants used overall reading proficiency level on the PSSA to identify low-performing students, 40.6% of the teachers used PSSA tests for identifying the reading strengths and weaknesses of these students.

It is important to note that prior to the 2005-06 school year, sixth-grade students and seventh-grade students did not take the reading PSSA. While the sixth-grade teachers involved in the study had their students' PSSA scores from fifth grade, the seventh-grade teachers did not have PSSA scores from the previous year for their students. At the time of this study, none of the sixth or seventh-grade teachers had PSSA scores from the current year for their students.

The teachers' lack of PSSA scores for current students may be just one explanation for the low percentage of teachers who used these scores to identify reading strengths and weaknesses of low-performing reading student. Another reason was expressed by a sixth-grade teacher who stated that the PSSA gives, "a general idea of who is below proficient, but is limited in providing information of what their deficits are." He/she went on to say, "I wish the PSSA provided more detailed results, but there are so many items in the eligible content, it would be difficult and lengthy to cover all of them."

On the other hand, more teachers used data from individual teacher-developed tests to identify reading strengths and weaknesses than to identify low-performing students. Individual teacher-developed tests were used by 53.1% of the surveyed teachers for identifying low-performing reading students, but a much higher percentage of teachers used data from these tests

to identify reading strengths and weaknesses. Twenty-three of the 32 participants or 71.9% responded that they used individual teacher-developed tests for that purpose.

In addition to data from the PSSA, comprehension tests, and individual teacher tests, 22 of the 32 participants used data from oral reading tests to identify the reading strengths and weaknesses of low-performing students. As was previously stated, oral reading tests were used by 100% of the special education teachers to identify reading strengths and weaknesses of low-performing students. Among the oral reading assessments these teachers identified during the interviews were Slosson, Read Naturally, Peabody Individual Achievement Test, the Dynamic Indicators of Basic Early Literacy Skills (DIBELS), and San Diego. Many of these tests were used as part of Progress Monitoring, a state sponsored program for frequently assessing special education students and monitoring their expected level of progress.

As seen in Table 3.15 Regular education teachers also used oral reading tests to assess strengths and weaknesses of low-performing students. However, the percentage of regular education teachers who indicated use of this type of test was lower than that of special education teachers. Thirteen or 57% of regular education teachers selected this assessment tool for Question #5 of the survey. Of those 13 teachers, six were reading specialists, two were language arts teachers who co-taught with reading specialists, and five were regular education reading teachers. It appeared that larger class sizes and time constraints prohibited regular education teachers from using oral reading tests.

Conversely, special education teachers may be more inclined to use comprehension and oral reading tests that they can administer regularly throughout the year and use for progress monitoring. This accountability mandate based on using the same test periodically could also

explain why these teachers were less inclined to rely on performance assessments and curriculum-based tests.

Table 3.15: Survey Results by Teacher Category for Question #5, Oral reading tests

	Regular Ed.			Special Ed	
	Frequency	Percent		Frequency	Percent
Not checked	10	43.5		0	0
Checked	13	56.5		10	100
Total	23	100		10	100

As shown in Table 3.16, none of the 18 teachers who used data from performance assessments such as portfolios, projects, and presentations to identify the strengths and weaknesses of their low-performing students were special education teachers. This was in stark contrast to the 78.3% of regular education teachers who used data from performance assessments for this purpose.

Table 3.16: Survey Results by Teacher Category for Question #5: Performance test (portfolios, projects, presentations, etc.)

	Regular Ed.			Special Ed	
	Frequency	Percent		Frequency	Percent
Not checked	5	21.7		10	100
Checked	18	78.3		0	0
Total	23	100		10	100

There was also a noteworthy difference between regular education teachers and special education teachers in the use of data from curriculum-based tests. Of the regular education teachers completing the survey, 65.2% designated they used curriculum-based tests to determine students' reading strengths and weaknesses. On the other hand, 20% of special education teachers indicated use of curriculum-based tests (See Table 3.17).

Table 3.17: Survey Results by Teacher Category for Question #5: Curriculum Based Test

	Regular Ed.			Special Ed	
	Frequency	Percent		Frequency	Percent
Not checked	8	34.8		8	80
Checked	15	65.2		2	20
Total	23	100		10	100

An explanation for these differences might be that in each of the three schools in the study, a special education teacher pulled out from the regular reading classroom the lowest performing students with IEPs. It appeared that these teachers focused more on the reading fluency and comprehension levels of their students than did the regular education teachers. The regular education teachers appeared to be able to devote less time to fluency and comprehension and more time on understanding components within and between texts. For example, during the interviews, regular education teachers identified performance assessments such as characterization and plot posters.

Fewer than 20% of all the teachers used benchmark tests to identify strengths and weaknesses of low-performing reading students. The vast majority of those teachers were from School A. This was the only school in the study to use the 4Sight Test. The teachers who used the test were pleased with the data it provided. One teacher stated, "It gives you an excellent breakdown of skills that the kids need to focus on." Another said, "It's [the 4Sight Test data] broken down and the analysis are broken down pretty well."

At the time of this study, this assessment was becoming popular among low performing schools to target reading strengths and weaknesses and guide instruction. Since this test was closely aligned to the PSSA, the schools' investment of time and money in this assessment was likely an attempt to increase the percentage of students scoring proficient or above on the PSSA and avoid state sanctions.

Two of the 32 survey participants identified online assessments as a source of data used to identify strengths and weaknesses of low-performing students. Both of those teachers were from School A. However, one of the teachers from School C stated that teachers in this school were in-serviced on Reading Navigator. He/she felt this on-line reading program was a "fantastic assessment tool." Though it was not available at the time of the study, he/she hoped it would be in the future.

All of the teachers who completed the survey indicated use of data from at least one of the given assessments to identify the reading strengths and weaknesses of low-performing students.

3.1.6   Research question Three: Findings

Identification of low-performing reading students and the identification of their reading strengths and weaknesses would be of little value without instructional modifications and adaptations designed to address student needs. The data-driven action plans mandated by NCLB for low performing schools, involved the use of student assessment data to provide insights into the efficacy of teaching and learning. However, the federal accountability system did not call attention to the problems of instructional quality in high-achieving schools. (Elmore, 2005)

The third research question asked, "How are teachers in high-performing, suburban middle schools using data to make instructional decisions designed to meet the academic needs of low-performing reading students?" This research question was addressed in the interviews. In addition, Questions #6, #7, and #8 of the survey addressed this research question.

Survey Question #6 asked teachers the extent to which they based their instructional decisions designed to meet the academic needs of low-performing reading students on student

assessment data. Survey question number 7 asked teachers to identify the instructional decisions they made to meet the academic needs of low-performing reading students. In addition, survey question number 8 asked teachers to rate the usefulness of types of assessment data in guiding the instructional decisions they identified in question 7.

3.1.7 Survey Question Six

In response to Question #6, 22 out of 32 participants responded that their instructional decisions designed to meet the academic needs of low-performing reading students were based "very much" on student assessment data. Nine teachers responded that these decisions were influenced "somewhat" by student assessment data.

Only one of the participants responded that his/her instructional decisions had "very little" basis in assessment data. He/she stated during the interview that, "It (student assessment data) probably would help me adjust or differentiate a little bit more than I try to do now, but, I don't think that I'm missing anything or the kids are missing out because I don't [base instructional decisions on student assessment data]." None of the teachers replied that their instructional decisions were "not at all" based on student assessment data.

Figure 3.3 shows the overall results for Question #6 of the survey. The "Response Total" is out of a possible 32 respondents.

6.   To what extent are your instructional decisions designed to meet the academic needs of low-performing reading students based on student assessment data?

	Response Percent	Response Total
Very much	68.8%	22
Somewhat	28.1%	9
Very little	3.1%	1
Not at all	0%	0
Total Respondents		**32**
(skipped this question)		0
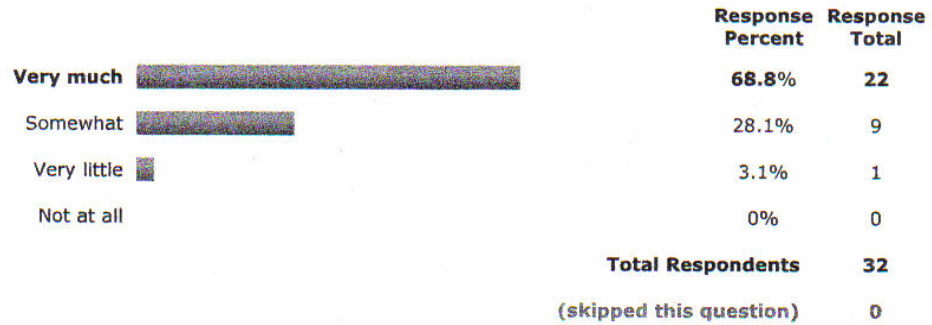
Figure 3-3: Survey Results for Question 6

During the interviews, teachers were asked how important they believed it was to use student assessment data as a basis for instructional decisions designed to meet the academic needs of low-performing reading students. Comments in support of using student assessment data as a basis for instructional decisions ranged from, "It's important" to "It's an absolute necessity."

One teacher responded that his/her everyday lessons were based on data. Another teacher stated, "I think the right data can go a long way to help a teacher make instructional decisions. I think, as teachers, we sometimes rely more on intuition and sometimes when we get into the data, we find that our intuition was wrong."

Another teacher stated in the interview, "I think it's (making instructional decisions designed to meet the academic needs of low-performing reading students based on student assessment data) very important. If we're going to test these children, we need to use the data. If we're going to improve their abilities, we need to know where they are."

While all but one of the teachers interviewed expressed a belief that student assessment data was important as a basis for instructional decisions, several added cautions to using data alone. One teacher stated, "I think it's (data) important, but I don't think it's the end all, be all. I learn a lot more from seeing my students perform than I do from looking at a number."

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Another teacher responded, "I think it's important to look at the data, and it gives me a starting point, but I don't want to get hung up on the data because of test scores. Some kids can't take tests."

One more teacher stated, "We very much are driven by what the students' needs are and not just the data because sometimes the data doesn't show what the needs of the student are. If they do well on a test that one particular day, that doesn't mean it's something that they actually mastered. It's very important that we look at them on a daily basis."

3.1.8   Survey Question Seven

In response to question 7 on the survey that asked teachers to identify the instructional decisions they made to meet the academic needs of low-performing reading students, at least 15 teachers, or 46.9% of the respondents identified each instructional strategy. The largest percentage of teachers responded that they devote more class time to specific content and skills. This strategy was selected by 81.2% of the teachers. Adjusting sequence of skill instruction was selected least, with 46.9% of the teachers identifying this strategy.

Following is a breakdown of the number of teachers who made each of the given instructional decisions. Twenty-six out of the 32 participants responded that they devoted more class time to specific content and skills. Twenty-four teachers changed teaching methodology (eg., lecture, cooperative learning, student inquiry). Twenty-three of the teachers indicated they differentiated instruction for small groups. This was the same number as responded they individualized materials and who responded they provided one-on-one tutoring. Twenty-one of the participants added, deleted, or changed skills taught. Twenty teachers organized groups by ability level. Fifteen responded that they adjusted the sequence of skills instruction. Of the 32

teachers who completed the survey, no one responded that they had not used student assessment data to make any of the listed instructional decisions.

Figure 3.4 shows the overall results from Question #7 of the survey. The "Response Total" is out of a possible 32 respondents.

7. Which of the following instructional decisions have you made to meet the academic needs of low-performing reading students? Please select only those strategies that were based on student assessment data. Check all that apply.

	Response Percent	Response Total
Devote more class time to specific content and skills	81.2%	26
Adjust sequence of skills instruction	46.9%	15
Add, delete, or change skills taught	65.6%	21
Change teaching methodology (Ex. lecture, cooperative learning, student inquiry)	75%	24
Differentiate instruction for small groups	71.9%	23
Organize groups by ability level	62.5%	20
Individualize materials	71.9%	23
Provide one-on-one tutoring	71.9%	23
I have not used student assessment data to make any of the above instructional decisions	0%	0
Other (please specify)	6.2%	2
Total Respondents		32
(skipped this question)		0

Figure 3-4: Survey Results for Question #7

The instructional decisions specified in the "Other" category are displayed in Table 3.18.

Table 3.18: Survey Results for Question #7, Other

	Response Percent	Response Total
IEP(Individualized Education Plan)/ER (Evaluation Report)	3.10%	1
Refer to reading support	3.10%	1
	Total	2

During the interviews, the instructional decision teachers reported making most was organizing groups of students by ability level. In each of the three schools, a special education teacher pulled low-performing reading students who had an IEP from the regular reading class.

School A had one homogeneously grouped reading class for their low-performing students in sixth grade. The IST teacher, who had been trained in Reading Achievement Center strategies, taught this class of approximately 20 students. School A heterogeneously grouped students for reading in seventh grade and eighth grade.

School B heterogeneously grouped sixth-grade and seventh-grade students for reading. In School B, seventh-grade teachers recommended low-performing students to take reading in eighth grade. These students were homogeneously grouped. The remaining eighth-grade students could choose to take either reading or a foreign language. The students who elected to take reading were heterogeneously grouped.

School C homogeneously grouped low-performing reading students in sixth grade. The language arts teacher from the team and the reading support teacher co-taught this class. Additionally, sixth-grade students were ability grouped within their language arts class for novel studies three times a year. The reading support teacher taught the novel study for a small group of the lowest performing reading students in the class. A lower level novel was used for this group and more time was devoted to skills instruction.

School C heterogeneously grouped seventh-grade students for reading. Each of the seventh grade-reading teachers was a certified reading specialist. In School C, only the low-performing eighth-grade reading students took reading. The remaining eighth-grade students took a foreign language.

All three schools in the study provided more time for reading instruction to address the needs of the low-performing students. School A offered an after-school reading tutorial program to low-performing students. In School B, sixth-grade and seventh-grade low-performing students met in small groups with the reading support teacher once or twice a week in place of a study hall. In School C, the reading support teacher on each sixth-grade team taught a reading review class to low-performing students. The review class used the reading intervention program SOAR to Success and met every third day.

While each of the three schools used various grouping strategies, grouping does not get to the specific needs of each individual low-performing student. As one teacher from School C stated, "We can obtain the data, but then when we take it a step farther to try to make sure that we're meeting all the individual needs of students, then it becomes a bit shakier."

In an attempt to design instruction to meet the needs of each individual low-performing student, the teachers used several strategies. These included differentiating instruction, devoting more time to specific skills, and one-on-one tutoring. In addition to those identified on the survey, special education teachers added that they break down information, slow down the curriculum, and break down tasks.

3.1.9   Survey Question Eight

The data-driven action plans mandated by NCLB for low-performing schools imply that student assessment data can provide valuable insights into the efficacy of teaching and learning. Teachers can employ student data to guide their instructional decisions. However, not all assessment data may be of the same value to middle school reading teachers. Question #8 on the survey asked teachers to rate the usefulness of different types of assessment data in guiding their

instructional decisions. Teachers' responses indicated some data was more useful for guiding instructional decisions designed to meet the academic needs of low-performing reading students than others.

As was the case with the data teachers used to identify reading strengths and weaknesses, comprehension tests, oral reading tests, and individual teacher-developed tests were the top three assessment tools used to drive instructional decisions. In response to survey Question #8, 17 of the 32 participants responded that they found comprehension tests "Very useful" in guiding their instructional decisions. The same number of teachers found oral reading tests useful for this purpose. Grades from individual teacher-developed tests were found to be "Very useful" by 11 teachers.

Ten teachers identified grades on curriculum-based tests as being "Very useful" in guiding their instructional decisions. Another 15 teachers responded that they found this assessment data "Somewhat useful." When these responses were grouped by teacher category and the results were compared to the data teachers used to identify reading strengths and weaknesses, a difference surfaced.

As reported in Table 3.19, 65.2 % of regular education teachers and 20% of special education teachers indicated they used curriculum-based tests to identify the reading strengths and weaknesses of their low-performing students. However, 95.7% of the regular education teachers and 40% of the special education teachers found this data "Very useful" or "Somewhat useful" for guiding instructional decisions made to meet the academic needs of low-performing students.

No clear explanation for these differences surfaced during the study. In the opinion of the researcher, teachers may have found curriculum-based tests more useful for guiding

instructional decisions than identifying reading strengths and weaknesses of individual students because these test typically would be given to a whole grade, class, or group of students as opposed to individual students. These tests would offer an opportunity to assess a group of students on a particular skill or content area. Teachers could use the resulting data to draw conclusions about the effects of instruction.

Table 3.19: Survey Results By Teacher Category For Question #8: Curriculum-Based Test

	Regular Ed.			Special Ed.	
	Frequency	Percent		Frequency	Percent
Very useful	8	34.8		2	20
Somewhat useful	14	60.9		2	20
Of little use	0	0		1	10
Not useful	0	0		0	0
N/A	1	4.3		5	50
Total	23	100		10	100

In response to Question #8 on the survey, 10 teachers found performance assessments such as portfolios, projects, and presentations "Very useful" in guiding their instructional decisions. As with use of this data to identify reading strengths and weaknesses, a much higher percentage of regular education teachers found data from performance assessments such as portfolios, projects, and presentations useful to guide instructional decisions than did special education teacher.

Table 3.20: Survey Results By Teacher Category For Question #8, Performance On Portfolio, Project, Presentation, Etc.

	Regular Ed.			**Special Ed.**	
	Frequency	Percent		Frequency	Percent
Very useful	9	39.1		1	10
Somewhat useful	6	26.1		1	10
Of little use	0	0		1	10
Not useful	1	4.3		0	0
N/A	7	30.4		7	70
Total	23	100		10	100

As displayed in Figure 3.5, a low percentage of teachers used data from benchmark tests and online assessments for making instructional decisions. Teachers reinforced these responses in the interviews. Only one of the teachers interviewed confirmed he/she used a benchmark test to guide his/her instructional decisions. This teacher was also the only one who acknowledged he/she used an online program, Homeroom.com, to assess students and guide instructional decisions. In addition, a low percentage of teachers used norm-referenced tests for making instructional decisions. Approximately 50% of the teachers did not use either of the outcome metrics listed for this assessment, grade equivalent and stanine.

Twenty-one or 66% of the teachers found the overall reading proficiency level on the PSSA either "Very useful" or "Somewhat useful" for guiding their instructional decisions. In comparison, 16 or 56% of the teachers found proficiency level for specific reading anchors on the PSSA "Very useful" or "Somewhat useful" for guiding their instructional decisions. In the opinion of the researcher, these numbers will go up once all of these teachers have PSSA scores from the previous year for their students. The PSSA is a high-stakes test and even teachers in high-performing schools will feel the pressure to "teach to the test."

Figure 3.5 below shows the overall results from question 8 of the survey. The "Response Total" is out of a possible 32 respondents.

8. How useful was each of the following types of assessment data in guiding the instructional decisions you identified in item 7. (Please check the N/A column if you do not use a particular type of data.) Table 3.21

Table 3.21 Survey Results for Question #8

	Very Useful	Somewhat Useful	Of Little Use	Not Useful	N/A
Grade equivalent on norm-referenced test (SAT, Terra Nova, etc.)	6% (2)	38% (12)	6% (2)	3% (1)	47% (15)
Stanine on norm-referenced test	3% (1)	34% (11)	9% (3)	0% (0)	53% (17)
Overall reading proficiency level on PSSA	19% (6)	47% (15)	6% (2)	0% (0)	28% (9)
Proficiency level for specific reading anchor on PSSA	12% (4)	44% (14)	6% (2)	3% (1)	34% (11)
Growth from Pennsylvania Value Added Assessment System (PVAAS	0% (0)	0% (0)	0% (0)	0% (0)	100% (32)
Results of benchmark test (4Sight, etc.)	9% (3)	9% (3)	6% (2)	0% (0)	75% (24)
Results from online assessment (Homeroom.com, Study Island, etc.) Report card grade	3% (1)	3% (1)	3% (1)	3% (1)	88% (28)
Report card grade	12% (4)	44% (14)	9% (3)	9% (3)	25% (8)
Grade on curriculum based test	31% (10)	47% (15)	3% (1)	0% (0)	19% (6)
Grade from individual teacher developed test	34% (11)	44% (14)	0% (0)	0% (0)	22% (7)
Performance on portfolio, project, presentation, etc.	31% (10)	22% (7)	3% (1)	3% (1)	41% (13)
Results from informal reading inventory (IRIs)	22% (7)	28% (9)	3% (1)	0% (0)	47% (15)
Results from oral reading test	53% (17)	16% (5)	0% (0)	0% (0)	31% (10)
Results from comprehension test	53% (17)	34% (11)	0% (0)	0% (0)	12% (4)
Total Responses					30
(Skipped this question)					0

3.1.10 Research Question Four: Findings

Monitoring student progress is imperative to evidence instructional effectiveness and make adjustments to meet the academic needs of students. The fourth research question asked, "What data do teachers in high-performing, suburban middle schools use to monitor academic progress of low-performing reading students?" This research question was addressed through interviews. In addition, Question #9 of the survey dealt with this research question. Question #9 asked teachers what assessment data they use to monitor the academic progress of low-performing reading students. Figure 3.6 shows the overall results for Question #9 of the survey. The "Response Total" is out of a possible 32 respondents.

	Response Percent	Response Total
Grade equivalent on norm-referenced test (SAT, Terra Nova, etc.)	21.9%	7
Stanine on norm-referenced test	12.5%	4
Overall reading proficiency level on PSSA	46.9%	15
Proficiency level for specific reading anchor on PSSA	31.2%	10
Growth from Pennsylvania Value Added Assessment System (PVAAS)	0%	0
Results of benchmark test (4Sight, etc)	15.6%	5
Results from online assessment (Homeroom.com, Study Island, etc.)	6.2%	2
Report card grade	59.4%	19
Grade on curriculum based test	68.8%	22
Grade from individual teacher developed test	68.8%	22
Performance on portfolio, project, presentation, etc.	56.2%	18
Results from informal reading inventory (IRIs)	31.2%	10
Results from oral reading test	65.6%	21
Results from comprehension test	84.4%	27
None	0%	0
Other (please specify)	18.8%	6
Total Respondents		32
(skipped this question)		0

Figure 3-5: Survey Results for Question #9

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The assessments specified in the "Other" category are displayed in Table 3.22. Two of the teachers who added assessment data to this category listed two types of data they used.

Table 3.22: Survey Results for Question #9, Other

	Response Percent	Response Total
Brigance	3.10%	1
BASIS (Basic Achievement Skills Individual Screener)	3.10%	1
IEP(Individualized Education Plan)/ER (Evaluation Report)	3.10%	1
Criterion Based Assessment	3.10%	1
STAR Reading	3.10%	1
Classroom performance	3.10%	1
PSSA	3.10%	1
WRAT (Wide Range Achievement Test)	3.10%	1
	Total	8

Assessment data from comprehension tests was the data most widely used to monitor academic progress of low-performing reading students. Of the 32 survey participants, twenty-seven used data from comprehension tests to monitor academic progress. As was reported previously in this study, assessment data from comprehension tests was used by the majority of teachers to identify low-performing students, identify the strengths and weaknesses of those students, and guide instructional decisions.

Curriculum-based tests and individual teacher developed tests each provided assessment data used by 22 of the survey participants to monitor student progress. However, when the survey results were disaggregated by teacher category, it became clear that regular education teachers used this data more often than special education teachers did. In fact, as Table 3.23 shows, 19 of the 22 responders who used data from curriculum-based tests to monitor student progress were regular education teachers. Moreover, as Table 3.24 shows, 18 of the 22 responders who used individual teacher-developed tests were regular education teachers.

Table 3.23: Survey Results By Teacher Category For Question #9: Curriculum-Based Test

	Regular Ed.			Special Ed	
	Frequency	Percent		Frequency	Percent
Not checked	4	17.4		7	70
Checked	19	82.6		3	30
Total	23	100		10	100

Table 3.24: Survey Results For By Teacher Category For Question #9, Individual Teacher-Developed Test

	Regular Ed.			Special Ed	
	Frequency	Percent		Frequency	Percent
Not checked	5	21.7		5	50
Checked	18	78.3		5	50
Total	23	100		10	100

As shown in Table 3.25, data from performance assessments such as portfolios, projects, and presentations was also used by a larger percentage of regular education teachers than special education teachers. As previously stated, special education teachers may be more inclined to use tests that can be administered regularly throughout the year and used for Progress Monitoring. This accountability mandate based on using the same test periodically could explain why these teachers were less inclined to rely on curriculum-based tests and individual teacher-developed tests.

Table 3.25: Survey Results by Teacher Category for Question #9, Performance Assessments

	Regular Ed.			Special Ed	
	Frequency	Percent		Frequency	Percent
Not checked	8	34.8		7	70
Checked	15	65.2		3	30
Total	23	100		10	100

On the other hand, a higher percentage of special education teachers than regular education teachers used data from oral reading tests to monitor student progress (See Table

3.26).   Special education teachers clarified these survey results during the interviews. Throughout the interviews, special education teachers in each of the three schools reported using a reading fluency test as part of Progress Monitoring.

For Progress Monitoring, special education teachers in School A used Read Naturally. As one of these teachers stated, "It (Read Naturally) gives us a really quick one-minute scale to see how many words per minute correctly they can read." This teacher also expressed that he/she had participated in "a lot of state training" for special education teachers in use of fluency tests. He/she said the regular education teachers were not included in this training, but that he/she had told them, "You might want to look into this."

Additionally, special education teachers in School A used SRA and PIAT (Peabody Individual Achievement Test) for Progress Monitoring. One of these teachers stated that he/she analyzed SRA results after approximately every fifth lesson to see where there were problems and then tried to adjust instruction accordingly. This same teacher reported that he/she used the PIAT at the beginning and end of the year.

The special education teacher from School B who participated in the interviews used IBELS fluency scores for Progress Monitoring. He/she reported giving the DIBELS once a week. He/she also used the San Diego Word List to find the instructional level of students.

In School C, only one special education teacher was interviewed. This teacher stated that he/she gave a Great Leaps fluency test every week and used this assessment data to monitor student progress.

Table 3.26: Survey Results By Teacher Category For Question #9, Oral Reading Test

| | Regular Ed. | | | Special Ed | |
	Frequency	Percent		Frequency	Percent
Not checked	11	47.8		1	10
Checked	12	52.2		9	90
Total	23	100		10	100

Of the 21 survey participants who used oral reading tests to monitor progress, 14 were from School C. This seems to be due in part to this school being a Title 1 school. One of the interviewed teachers stated that the Title 1 teachers were required to submit reports to the state on their Title 1 students. According to this teacher, "Title 1 students have to become proficient on three measures." Therefore, Title 1 teachers gave the Houghton-Mifflin fluency test at the beginning, middle, and end of the year to monitor student progress. They also gave a curriculum-based test from Jamestown Publishers periodically and the Ekwall-Shanker IRI at the beginning and end of the year. As Tables #27, #28, and #29 show, when the survey results were disaggregated by school, School C had the highest percentage of teachers using the three assessment types used by this school to monitor progress of Title 1 students.

Table 3.27: Survey Results by School for Question #9, Oral Reading Test

	School A			School B			School C	
	Frequency	Percent		Frequency	Percent		Frequency	Percent
Not checked	3	50		4	50		4	22.2
Checked	3	50		4	50		14	77.8
Total	6	100		8	100		18	100

Table 3.28: Survey Results by School for Question #9, Curriculum-Based Test

	School A			School B			School C	
	Frequency	Percent		Frequency	Percent		Frequency	Percent
Not checked	3	50		4	50		3	16.7
Checked	3	50		4	50		15	83.3
Total	6	100		8	100		18	100

Table 3.29: Survey Results by School for Question #9, Informal Reading Inventory

	School A			School B			School C	
	Frequency	Percent		Frequency	Percent		Frequency	Percent
Not checked	5	83.3		7	87.5		10	55.6
Checked	1	16.7		1	12.5		8	44.4
Total	6	100		8	100		18	100

School A was the only school using 4Sight benchmark assessments. All students in this middle school took the 4Sight benchmark test three times during the 2005-06 school year. Students who attended the after-school tutoring program took the 4Sight test two additional times for a total of five times during the 2005-06 school year.

Of the four teachers interviewed from School A, three stated they used the 4Sight assessment data to monitor student progress. One of these teachers stated that it's "pretty easy because it's (4Sight data) broken down and the analysis are broken down pretty well." Another teacher expressed that they were "still encountering some glitches" with the assessment data, but it still gave him/her an indicator of how a student was doing in comparison to other students in the class.

While only two teachers who participated in the survey used online assessments to monitor student progress, both of these teachers were from School A. One of these teachers identified Homeroom.com as the online assessment he/she used.

One of the teachers from School B stated during the interview that, "An online test that had levels to test student progress or to use to review or retest skills would be convenient and valuable to me."

A teacher from School C stated during the interview that teachers from this school had previewed Jamestown's Reading Navigator online intervention program designed for middle and high school students. Reading Navigator includes an ongoing progress monitoring system. This teacher felt this was a "fantastic assessment tool" because it gave immediate feedback on student needs. However, he/she expressed concerns over being unable to acquire this program due to its high price tag.

Based on the overall results represented in Figure 3.6 (p. 97), fewer than half of the survey participants used the overall reading proficiency level from the PSSA to monitor student progress. Furthermore, fewer than a third of the teachers used the proficiency level for specific reading anchors.

Sixth-grade students did not take the PSSA during the 2004-05 school year. Therefore, the seventh-grade teachers did not have their students' reading PSSA scores from the previous grade level. In addition, though sixth - and seventh-grade students took the reading PSSA during the 2005-06 school year, the results for the 2005-06 test had not been received by the districts at the time of the study. With this in mind, it was not surprising, as Table 3.30 shows, that more sixth grade teachers used this assessment data to monitor student progress than seventh-grade teachers did.

Table 3.30: Survey Results By Grade Level For Question #9, Overall Reading Proficiency Level On PSSA

	Grade 6			Grade 7	
	Frequency	Percent		Frequency	Percent
Not checked	10	47.6		11	78.6
Checked	11	52.4		3	21.4
Total	21	100		14	100

Grade equivalents and stanines from norm-referenced tests were used by 21.9% and 12.5% of the teachers respectively. The infrequency of the PSSA and norm-referenced tests seem to limit their effectiveness as a tool to monitor individual student progress. It appears these assessments have more value for identifying low-performing students and longitudinal analysis of a group of students.

3.1.11 Research Question Five: Findings

Resources can have a major impact on student achievement. The assumption underlying Title 1 of the 1965 Elementary and Secondary Education Act (ESEA) was that states were not adequately investing in low-income and minority students. In an attempt to assuage the inequality of resources, Title 1 provided funding to schools serving disadvantaged students. Though the focus shifted from inputs to outputs following the *Nation at Risk* report, the state continued to provide federal dollars to school districts to meet the needs of low-income children.

Generally, high-achieving, suburban school districts did not qualify for Title 1 funding. However, School C of this study was a Title 1 school. As a result, it received federal funding and had resources not observed in the other two schools.

The fifth research question asked, "What role do resources in high-performing, suburban middle schools play in the teachers' ability to use data to make instructional decisions designed to meet the academic needs of low-performing reading students?" This research question was addressed through interviews. In addition, questions 10, 11, and 12 of the survey addressed this research question. Survey question number 10 asked teachers to identify the resources provided by the school and/or district to support his/her ability to use data to make instructional decisions. Survey question number 11 asked teachers to identify factors that had hindered his/her ability to use data to make instructional decisions. In addition, survey question number 12 asked teachers to rate the importance of different resources in making data-driven instructional decisions designed to meet the academic needs of low-performing reading students. Figure 3.7 shows the overall results from Question #10 of the survey. The "Response Total" is out of a possible 32 respondents.

10. Which of the following resources have been provided by your school and/or district to support your ability to use data to make instructional decisions? Please select all that apply.

	Response Percent	Response Total
Time to study and think about available data	34.4%	11
Time to collaborate with others in analyzing and interpreting data	40.6%	13
Professional development in data analysis skills	28.1%	9
Professional development in use of student data to guide instruction	46.9%	15
Technology support staff	56.2%	18
Data summaries or reports to make large amounts of data manageable	43.8%	14
Access to computer in classroom	75%	24
Classroom computer linked to district database	31.2%	10
Data system that provides easy access to existing data	15.6%	5
Sufficient amount of data	34.4%	11
Relevant data	43.8%	14
Other (please specify)	12.5%	4
Total Respondents		32
(skipped this question)		0

Figure 3-6: Survey Results for Question #10

The assessments specified in the "Other" category are displayed in Table 3.31.

Table 3.31: Survey Results for Question #10, Other

	Response Percent	Response Total
IEP(Individualized Education Plan)/ER (Evaluation Report)	6.20%	2
PSSA data summary from district	3.10%	1
Excel workshop	3.10%	1
	Total	4

As Figure 3.7 shows, access to a computer in the classroom was the resource most frequently provided by schools and/or districts to teachers in this study. Twenty-four of the 32 participants responded that he/she had access to a computer in his/her classroom. While the

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schools and/or districts provide this resource to 75% of the teachers who responded to the survey, eight of the teachers who participated in the study did not have access to a computer in his/her classroom. In the opinion of this researcher, this resource was fundamental to a teacher's ability to use data to make decisions designed to improve reading achievement of low-performing students.

While at least one teacher from each of the three schools reported that they did not have access to a computer in their classroom, more teachers in School C lacked this resource. As Table 3.32 shows, one third of the teachers in School C reported that their school and/or district did not provide this resource. A closer look at the results shows that three of these teachers taught more than one grade level. They may not have been in one room all day or shared a classroom with another teacher, which could account for their lack of access to a computer in the classroom.

Table 3.32 : Survey Results For Question #10, Access To Computer In Classroom

	School A			School B			School C	
	Frequency	Percent		Frequency	Percent		Frequency	Percent
Not checked	1	16.7		1	12.5		6	33.3
Checked	5	83.3		7	87.5		12	66.7
Total	6	100		8	100		18	100

Technology support staff was the resource provided to the next highest percentage of teachers. This resource was reportedly provided to 23 of the teachers who participated in the survey. A significant difference appeared between the numbers of teachers from the three schools who indicated this resource was provided to them. As depicted in Table 3.33, the responses ranged from a high of one hundred percent of the six teachers in School A to a low of only one of the teachers in School B. Surprisingly, 61.1% of the teachers in School C responded

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that the school and/or district provided technology support staff while 38.9% of the teachers in the same school responded that this resource was not provided. It was difficult for the researcher to understand how and/or why this resource would be available to some teachers in a building and not others.

Table 3.33: Survey Results By School For Question #10, Technology Support Staff

	School A			School B			School C	
	Frequency	Percent		Frequency	Percent		Frequency	Percent
Not checked	0	0		7	87.5		7	38.9
Checked	6	100		1	12.5		11	61.1
Total	6	100		8	100		18	100

Access to a computer in the classroom and technology support staff were the only resources from the list provided to over 50% of the teachers. Professional development in use of student data to guide instruction was the resource provided to the next highest percentage of teachers.   School and/or districts provided this resource to 46.9% of the teachers who participated in the survey. Special education teachers were more frequently the recipients of this resource than were regular education teachers. Ninety percent of these teachers indicated the school and/or district provided this resource. In contrast, the percentage of regular education teachers provided with professional development in use of student data to guide instruction was 21.7% (See Table 3.34).

Table 3.34:   Survey Results By Teacher Category For Question #10, Professional Development In Use Of Student Data To Guide Instruction

	Regular Ed.			Special Ed	
	Frequency	Percent		Frequency	Percent
Not checked	16	78.3		1	10
Checked	7	21.7		9	90
Total	23	100		10	100

However, professional development (Table 3.35) in use of student data to guide instruction was highly prevalent among all teachers in School A. In fact, one hundred percent of these teachers indicated the school and/or district provided this resource. One teacher from School A remarked, "If it's something new, we're taught how to interpret it, understand it, and make use of it." In contrast, 25% of the teachers in School B and 38.9% of teachers in School C responded that their school and/or district provided this resource.

Table 3.35: **Survey Results By School For Question #10, Professional Development In Use Of Student Data To Guide Instruction**

	School A			School B			School C	
	Frequency	Percent		Frequency	Percent		Frequency	Percent
Not checked	0	0		6	75		11	61.1
Checked	6	100		2	25		7	38.9
Total	6	100		8	100		18	100

The percentage of regular education teachers (Table 3.36) who received professional development in data analysis skills was the same as the percentage who received professional development in use of student data to guide instruction. That was not the case for special education teachers. While 90% of those teachers received professional development in use of student data to guide instruction, 40% received professional development in data analysis skills.

Table 3.36: **Survey Results By Teacher Category For Question 10, Professional Development In Data Analysis Skills**

	Regular Ed.			Special Ed	
	Frequency	Percent		Frequency	Percent
Not checked	18	78.3		6	60
Checked	5	21.7		4	40
Total	23	100		10	100

Progress Monitoring requirements may have been the cause of the contrast between the different types of professional development provided to special education teachers. It appeared

from the comments given by these teachers during the interviews, that they were trained in use of data from the assessment for Progress Monitoring but not in analysis of other assessment data.

One teacher from School A stated that he/she had received training at the Pennsylvania Training and Technical Assistance Network (PaTTAN). PaTTAN is an initiative of the Pennsylvania Department of Education. PaTTAN's primary focus is special education. This teacher stated that a few representatives from the school's special education department were trained at PaTTAN. Those teachers who received the training were then responsible for training other special education teachers in their building. In addition, another special education teacher from School A expressed that the school's director of special education trained the special education teachers on Progress Monitoring.

Similarly, a special education teacher from School B expressed that he/she had been trained on "how to do Progress Monitoring." He/she stated that the Allegheny Intermediate Unit (AIU) had provided training to the special education teachers. However, this teacher also stated that he/she had not been trained in "looking at a whole lot of data."

Likewise, a special education teacher from School C added that the school and/or district gave special education teachers training on the instrument they were going to use for Progress Monitoring.

Table 3.37 below illustrates teachers in School A also received less professional development in data analysis skills than in use of student data to guide instruction. A higher percentage of teachers in School A though, were provided with professional development in data analysis skills than were teachers in either School B or School C. All of the teachers from School B who were interviewed commented that they had not received any professional development in data analysis or use. One teacher from School C commented, "We have not

necessarily received any professional development through the district (on data analysis or use)."

Another stated, "It's (professional development on data analysis or use) minimal."

Table 3.37: Survey Results By School For Question #10, Professional Development In Data Analysis Skills

	School A			School B			School C	
	Frequency	Percent		Frequency	Percent		Frequency	Percent
Not checked	2	33.3		7	87.5		14	77.8
Checked	4	66.7		1	12.5		4	22.2
Total	6	100		8	100		18	100

As Tables 3.38, 3.39, 3.40, 3.41, and 3.42 show, several other resources listed in survey Question #10 were more prevalent in School A as well. A higher percentage of teachers in School A responded that the school and/or district had provided them with time to study and think about available data, time to collaborate with others in analyzing and interpreting data, data summaries or reports to make large amounts of data manageable, sufficient amounts of data, and relevant data.

In contrast, School B had the lowest percentage of teachers who responded that the school and/or district had provided these resources. Furthermore, all of the teachers in School B who were interviewed stated that teachers in their school had not been given time to interact with data to guide instruction. In terms of the amount and quality of available data, one of these teachers stated that the data available to him/her has been very limited. Another stated that they would like to have data from an test that gives a breakdown of reading skills.

During the interviews, teachers from School A commented further on the resources provided by their school and/or district. According to these teachers, the district found a variety of ways to provide time for teachers to collaborate with others about data. First, staff development days were provided at the beginning, middle, and end of the year for teachers to

interact with data. During this time, teachers were able to meet with their students' previous teachers. Furthermore, there was a two-hour delay for students once a month to allow teachers professional development time. Additionally, activity periods at the end of the day provided time for teachers to meet. Moreover, 45 minute team planning periods offered an opportunity for teachers to discuss data.

Several district staff members provided data reports for teachers in School A. The assistant superintendent created data reports based on assessment data and shared them with the staff. Additionally, one of the special education teachers had put together a spreadsheet where the other special education teachers could "plug in numbers" and produce a chart.

Data was available from a number of different assessment tools for teachers in School A. All students in this middle school took the 4Sight benchmark test three times during the 2005-06 school year. Students who attended the after-school tutoring program took the 4Sight test two additional times for a total of five times during the 2005-06 school year. In addition to the PSSA, students in grades five and seven took the Terra Nova norm-referenced test.

School A is in a district with an administrator who is committed to data-driven decision making. In the opinion of this researcher, this administrator has had a significant impact on the availability of resources that support the teachers' ability to use data to make instructional decisions.

Table 3.38: Survey Results By School For Question 10, Time To Study And Think About Available Data

	School A			School B			School C	
	Frequency	Percent		Frequency	Percent		Frequency	Percent
Not checked	1	16.7		7	87.5		13	72.5
Checked	5	83.3		1	12.5		5	27.8
Total	6	100		8	100		18	100

Table 3.39: Survey Results by School for Question 10, Time to collaborate with others in analyzing and Interpreting data

	School A			School B			School C	
	Frequency	Percent		Frequency	Percent		Frequency	Percent
Not checked	1	16.7		8	100		10	55.6
Checked	5	83.3		0	0		8	44.4
Total	6	100		8	100		18	100

Table 3.40: Survey Results by School for Question #10, Data Summaries Or Reports To Make Large Amounts Of Data Manageable

	School A			School B			School C	
	Frequency	Percent		Frequency	Percent		Frequency	Percent
Not checked	0	0		8	100		10	55.6
Checked	6	100		0	0		8	44.4
Total	6	100		8	100		18	100

Table 3.41: Survey Results by School for Question #10, Sufficient Amount Of Data

	School A			School B			School C	
	Frequency	Percent		Frequency	Percent		Frequency	Percent
Not checked	0	0		8	100		13	72.2
Checked	6	100		0	0		5	27.8
Total	6	100		8	100		18	100

Table 3.42: Survey Results by School for Question 10, Relevant Data

	School A			School B			School C	
	Frequency	Percent		Frequency	Percent		Frequency	Percent
Not checked	0	0		7	87.5		11	61.1
Checked	6	100		1	12.5		7	38.9
Total	6	100		8	100		18	100

On the other hand, two of the resources listed on the survey were provided to a low percentage of teachers in all three schools. The first of these resources was a classroom computer linked to the district database. The other was a data system that provided easy access

to existing data. As Tables 3.423and 3.44 indicate, fewer than 40% of the teachers in any of the three buildings were provided these resources.

Table 3.43: Survey Results By School For Question 10, Classroom Computer Linked To District Database

	School A			School B			School C	
	Frequency	Percent		Frequency	Percent		Frequency	Percent
Not checked	4	66.7		7	87.5		11	61.1
Checked	2	33.3		1	12.5		7	38.9
Total	6	100		8	100		18	100

Table 3.44: Survey Results By School For Question 10, Data System That Provides Easy Access To Existing Data

	School A			School B			School C	
	Frequency	Percent		Frequency	Percent		Frequency	Percent
Not checked	4	66.7		7	87.5		16	88.9
Checked	2	33.3		1	12.5		2	11.1
Total	6	100		8	100		18	100

Teachers in School A stated that they did not have online access to student assessment data but did receive hard copies of PSSA results and Terra Nova scores. They stated that the assistant superintendent, guidance counselor, and Instructional Support Teacher (IST) had online access to student assessment data. Teachers were able to acquire hard copies of the data by contacting one of these people. Additional data was also available through the director of special education. One special education teacher stated that special education teachers have the "Eagles IEP Writing System" and that IEP data was available to them through this system.

School B teachers all expressed frustration with the lack of easily accessible data. Several stated that they had to "hunt down" or "seek out" data. The data was in the students' folders in the guidance office. Teachers had to go through over 120 folders to get student assessment data for each individual student. As one teacher stated, "It's not a clear printout sheet."

One teacher in this school went on to say, "I think that it (an easily accessible data system) would go a long way to promoting data driven decisions." Another said he/she would welcome having the assessment "scores at the beginning of the year and having time to actually be able to look and see what's going on."

School C teachers also expressed that there was "no one place that you can go to get all the data." The sixth-grade Title 1 teachers were perplexed at the beginning of the year when they needed to identify students for the Title 1 reading class. One of these teachers created a form for the fifth-grade teachers to complete. On it, the fifth-grade teachers listed assessment data, report card grades, and indicated student's participation in the Title 1 reading program at the elementary level. One of the middle school Title 1 teachers said, "To have a kid's data in one place and you can access it any time you want, that would be fantastic."

One special education teacher from School C stated that special education teachers used the "Penn Data System." They stated that through this system they could get the IEPs, ERs, grades and Cognitive Achievement Test scores. According to this teacher, PSSA scores were not available through Penn Data. Moreover, this teacher stated, "There were a lot of glitches with it (Penn Data). The first year was horrendous. It was just chaos."

While the IEP information was online and the special education teachers in School C reported they utilized it all the time, regular education teachers could not access this online IEP data. These teachers had to go to the special education teacher's room to look at a hard copy of a student's IEP.

Disaggregated survey results further highlighted the disadvantage regular education teachers had in easily accessing student assessment data. Forty percent of special education teachers responded that the school and/or district provided a data system with easy access to

existing data. Conversely, 4.3% of regular education teachers had such a data system (See Table

3.45).

Table 3.45: Survey Results By Teacher Category For Question #10, Data System Provides Easy Access To Existing Data

| | Regular Ed. | | | Special Ed | |
	Frequency	Percent		Frequency	Percent
Not checked	22	95.7		6	60
Checked	1	4.3		4	40
Total	23	100		10	100

As was evidenced by the results of survey Question #10, the provision of resources was

not equal among the teachers in this study. However, teachers did not always see the lack of

these resources as a hindrance to using data to make instructional decisions. Question #11 of the

survey addressed this issue. Figure 3.8 shows the overall results from Question #11 of the

survey. The "Response Total" is out of 32 respondents.

11. Which of the following factors have hindered your ability to use data to make instructional decisions? Please select all that apply.
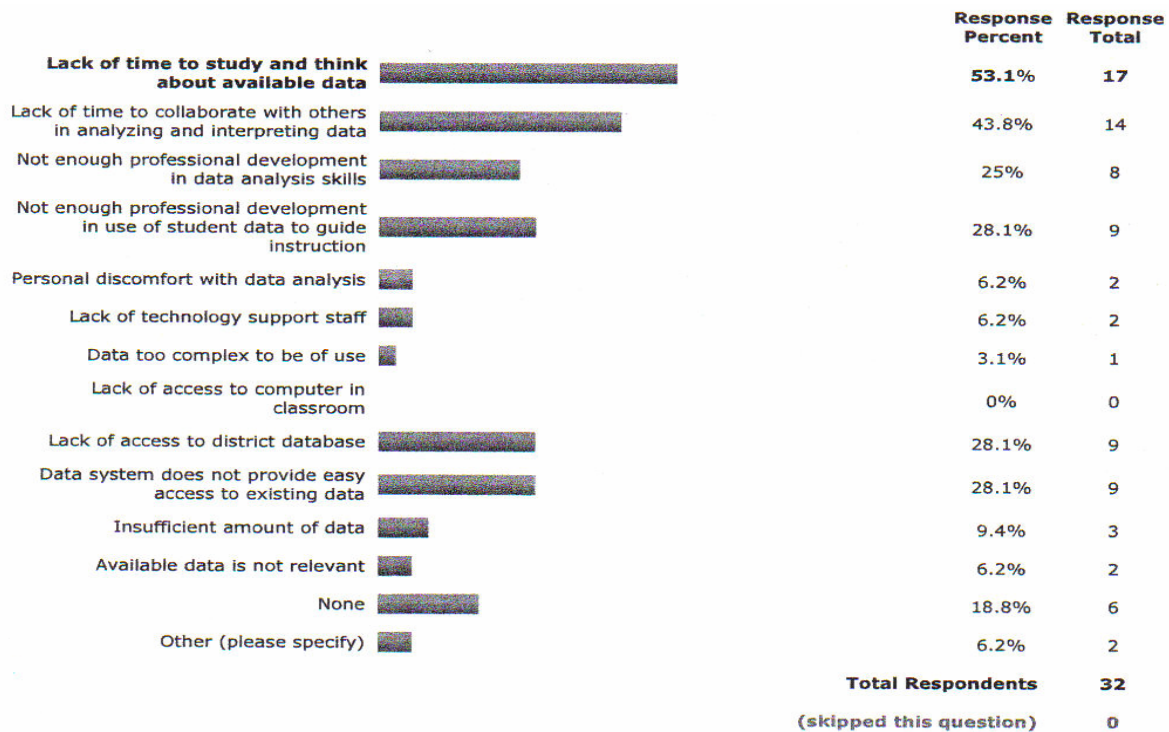
		Response Percent	Response Total
Lack of time to study and think about available data		53.1%	17
Lack of time to collaborate with others in analyzing and interpreting data		43.8%	14
Not enough professional development in data analysis skills		25%	8
Not enough professional development in use of student data to guide instruction		28.1%	9
Personal discomfort with data analysis		6.2%	2
Lack of technology support staff		6.2%	2
Data too complex to be of use		3.1%	1
Lack of access to computer in classroom		0%	0
Lack of access to district database		28.1%	9
Data system does not provide easy access to existing data		28.1%	9
Insufficient amount of data		9.4%	3
Available data is not relevant		6.2%	2
None		18.8%	6
Other (please specify)		6.2%	2
	Total Respondents		32
	(skipped this question)		0

Figure 3-7: Survey Results for Question #11

In general, lack of time, not enough professional development, and lack of easy access to data were the factors that hindered the highest number of teachers. Very few, if any, teachers were hindered by their personal discomfort with data analysis, the lack of technology support staff, the complexity of available data, insufficient amounts of data, irrelevant data, and/or the lack of access to a computer in the classroom. Six of the 32 teachers who responded felt that none of the listed factors hindered their ability to use data to make instructional decisions. The two teachers who listed factors in the "other" category stated that not having access by computer to district information on each student and lack of a database for students' reading information hindered their ability to use data to make instructional decisions.

Almost unanimously, a higher number of regular education teachers felt hindered by the factors given in question 11 than did special education teachers (see Table 3.46). Personal discomfort with data analysis was the only factor identified by a higher percentage of special

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education teachers than was identified by regular education teachers. Perhaps this is because 60% of the special education teachers responded in question 10 that their school and/or district did not provide professional development in data analysis skills.

Conversely, none of the special education teachers felt hindered by the lack of access to a district database or a data system that does not provide easy access to existing data. On the other hand, 39.1% of regular education teachers felt these factors hindered their use of data to make instructional decisions. As was stated in the responses to survey Question #10, special education teachers have more access to student data.

Table 3.46: Survey Results by Teacher Category for Question #11

Question #11 - Percentage of Responses	Regular Ed.	Special Ed.
Lack of time to study and think about available data	60.90	30
Lack of time to collaborate with others in analyzing and interpreting data	43.50	40
Not enough professional development in data analysis skills	34.80	0
Not enough professional development in use of student data to guide instruction	39.10	10
Personal discomfort with data analysis	4.30	10
Lack of technology support staff	8.70	0
Data too complex to be of use	4.30	0
Lack of access to computer in classroom	0	0
Lack of access to district database	39.10	0
Data system does not provides easy access to existing data	39.10	0
Insufficient amount of data	13	0
Available data is not relevant	8.70	0

Though not all the teachers in the study had the same resources available to them nor did they all see the lack of these resources as a hindrance, Question #12 of the study asked how important they believed each resource was in making instructional decisions. As can be seen in Figure 3.9, a vast majority of the teachers felt each of the given resources were either "Very important" or "Somewhat important" in making data-driven instructional decisions. Figure 3.9

shows the overall results for question 12 of the survey. The "Response Total" is out of 32

respondents.

12. How important do you believe each of the following resources is in making data-driven
instructional decisions designed to meet the academic needs of low-performing reading
students?

Table 3.47 Survey Results for Question #12

	Very Important	Somewhat Important	Of Little Importance	Not Important
Time to study and think about available data	81% (26)	19% (6)	0% (0)	0% (0)
Time to collaborate with others in analyzing and interpreting data	84% (27)	12% (4)	3% (1)	0% (0)
Professional development in data analysis skills	53% (17)	47% (15)	0% 0)	0% (0)
Professional development in use of student data to guide instruction	59% (19)	41% (13)	0% (0)	0% (0)
Technology support staff	31% (10)	56% (18)	12% (4)	0% (0)
Data summaries or reports to make large amounts of data manageable	56% (18)	31% (10)	12% (4)	0% (0)
Access to computer in classroom	81% (26)	16% (10)	3% (1)	0% (0)
Classroom computer linked to district database	56% (18)	34% (11)	9% (3)	0% (0)
Data system that provides easy access to existing data	59% (19)	34% (11)	6% (2)	0% (0)
Sufficient amount of data	84% (27)	12% (4)	3% (1)	0% (0)
Relevant data	91% (29)	9% (3)	0% (0)	0% (0)
Total Respondents				**32**
(Skipped this question				**0**

On Question #10, 5 of the 32 teachers responded that their school and/or district provided a data system with easy access to existing data. However, on Question #12, all 32 teachers indicated this was an important resource. In fact, on Question q10, technology support staff and access to a computer in the classroom were the only two resources provided to more than 50% of the survey population. On the other hand, no fewer than 87% of this population felt that each of the listed resources was important in making instructional decisions.

4.0   CHAPTER

4.1   SUMMARY, CONCLUSIONS, AND IMPLICATIONS

4.1.1   Introduction

The No Child Left Behind Act set annual goals for academic achievement with the expectation that all students would be proficient in reading and math by the year 2014. Annual statewide assessments provided an external measure to determine the level of performance. The federal government required states to impose severe sanctions on repeatedly low-performing schools and districts. The high-stakes associated with statewide assessment data increased pressure on these schools to use it to drive instructional decisions designed to improve student achievement.

Improving the academic achievement of low-performing students in order to meet designated levels of annual yearly progress (AYP) became the focus of school improvement plans. By necessity, schools with high percentages of low-performing students devoted time and resources to educate teachers on data-driven decision making to monitor the progress of low-performing students and adjust instruction to meet their needs.

While School Improvement Plans mandated collection and analysis of data for low-performing schools and applied serious sanctions for schools not meeting AYP requirements, this review of literature revealed that high-performing schools did not have the same data

requirements. Without the external demands for data-driven decision making, high-performing schools may have had little motivation to venture into that area.

Theodore Hershberg (2004) referred to high-performing schools as "slide and glide" schools because they appeared "to be resting on the laurels of their students." NCLB did not hold schools accountable for the annual academic growth of individual students. Therefore, a lofty percentage of high-performing students could potentially mask the needs of a small percentage of low-performing students.

4.1.2 Restatement of Study's purpose and Design

This study examined the use of data by teachers in three high-performing, suburban middle schools in Allegheny County, Pennsylvania to increase the reading achievement of their low-performing students. Factors examined were the data used by teachers to identify low-performing students, the data used to identify the academic strengths and weaknesses of these students, the instructional decisions made to address the academic needs of these students, and the data used to monitor progress of these students. In addition, the study examined the role of resources such as time, professional development, and technology in the teacher's ability to use data to make instructional decisions.

Middle schools were selected for this study based on the achievement levels of eighth-grade students on the 2004-05 Reading PSSA. Each of the three middle schools included in the study had scores among the top 10 in Allegheny County based on the percentage of students at the proficient level or above. Student population ranged from 610 in a middle school with grades five through eight to 1080 in a grade six through eight middle school.

In April 2006, a survey was e-mailed to all sixth- and seventh-grade teachers of reading in each of the three middle schools. Regular education teachers, special education teachers, and reading support teachers were included in the survey population. The responses from each school included representatives from each of the three teacher categories. Of the 43 teachers who received the survey, 32 completed it. Therefore, the participation rate was 74.4%.

The last question of the survey asked teachers if they would be willing to participate in a follow-up interview. The original intent was to select from the teachers who responded to the survey one sixth-grade reading teacher, one seventh-grade reading teacher, one special education reading teacher, and/or one reading specialist from each of the three schools. In addition to willingness to participate, selection of teachers to be interviewed was to be based on their level of data use as reported on the survey. A representation of teachers with high and low levels of data use were to be interviewed.

Of the 32 teachers who completed the survey, 16 teachers volunteered to be interviewed. Based on the response rate, all teachers who volunteered were interviewed. The interviews were conducted during the months of May and June 2006. Each interview was tape recorded with permission of the participant and transcribed for analysis.

In School A, the researcher was able to interview a teacher from each of the preferred categories except a reading specialist. This school did not have a teacher in that position. In School B, the researcher interviewed two sixth-grade reading teachers, two seventh-grade reading teachers, and one sixth-grade special education teacher. None of the seventh-grade special education teachers or the reading specialist volunteered to be interviewed. In School C, the researcher interviewed one sixth-grade reading teacher, one-sixth grade language arts teacher, three sixth-grade reading support teachers, and one seventh-grade special education

teacher. None of the sixth-grade special education teachers or seventh grade-reading teachers volunteered to be interviewed.

The 16 teachers who volunteered to be interviewed did not equally represent the categories of teachers from whom the researcher hoped to gather information. In addition, the teachers who volunteered to be interviewed possibly possessed more knowledge of assessments and higher levels of comfort with using data to guide instructional decisions than did the teachers who did not volunteer.

For the purpose of this study, the school was the basic unit of analysis. While each of the three case study schools was classified as high performing, differences were uncovered in the way each addressed the needs of their low-performing reading students. Among the differences were the criteria used to identify low-performing students, grouping of students, additional services provided to low-performing reading students, and certification of teachers working with low-performing reading students.
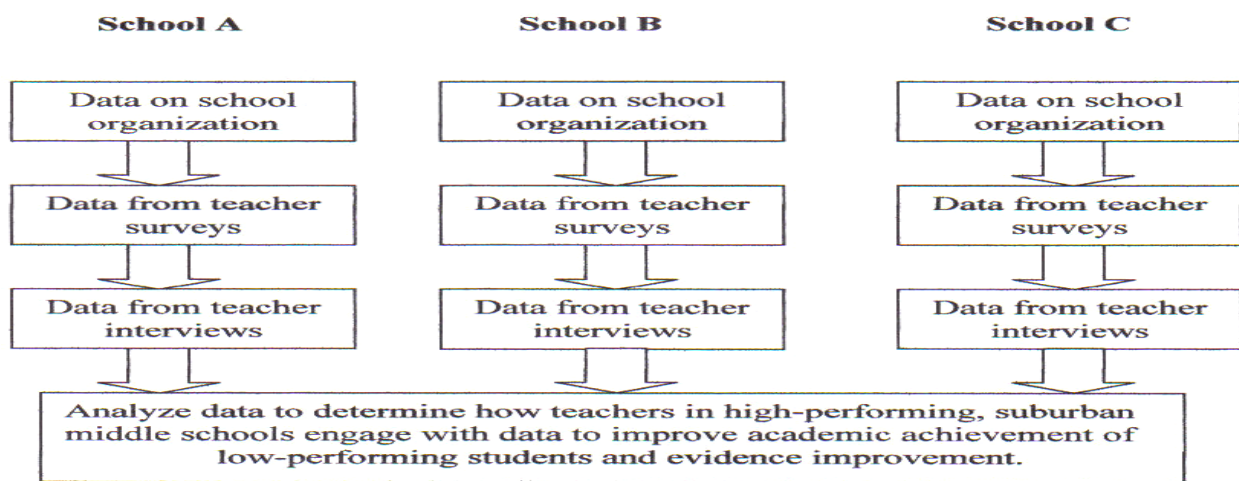
Figure 4-1: Procedures for the Collection of Research Information

4.1.3 Discussions

The intent of this study was to ascertain how teachers in three high-performing, suburban middle schools were engaging with data to improve the academic achievement of low-performing reading students, and what data were used to evidence this improvement. Five research questions guided this investigation.

Research Question 1 – What data do teachers use to identify low-performing students in high-performing, suburban middle schools?

The researcher found that in each of the three high-performing schools, reading teachers used a variety of assessment data to identify their low-performing students. However, the term "low-performing reading student" was found to be relative to the general student population and not necessarily based on specific outcome metrics. While the Pennsylvania Department of Education uses target scores on state tests to classify students as below proficient in reading, students who were proficient or above on these tests were not exempt from being identified as low performing in these high-performing middle schools.

Teachers in these schools did not rely solely on any single type of assessment to identify low-performing reading students. Of course, the high-stakes attached to PSSA scores prompted a majority of teachers to use it as one indicator of low performance. However, just as many teachers used comprehension tests for this purpose as used the PSSA.

Furthermore, a number of teachers expressed their preference for scores from a norm-referenced test over PSSA results to use in the identification of low-performing reading students. They were frustrated that the requirement to administer the PSSA in grades three through eight and grade eleven had resulted in a reduction in the administration of norm-referenced tests. They

believed norm-referenced tests were a more reliable indicator of student achievement levels and provided data that was more valuable to reading teachers.

The absence of data from norm-referenced tests, the late arrival of PSSA scores, and the need to identify low-performing students for placement in the Title 1 reading review class resulted in the need for Title 1 reading teachers in School C to administer a number of tests at the beginning of the year. Fortunately, this school had Title 1 teachers who had time to evaluate students using a combination of group and individual student tests. These teachers had previously depended on scores from the IOWA Test of Basic Skills to place students in the reading review class. However, in the absence of that data, they used the Gates-McGinite, Ekwall-Shanker Informal Reading Inventory and a curriculum based assessment from Jamestown Publishing. These three tests became part of the progress monitoring of the Title 1 students.

The researcher found that reading teachers in all three schools used a variety of assessment data to identify low-performing reading students. However, the teachers did not always use the data they believed to be the best tool for this purpose. Several factors contributed to the assessment data used.

First, school administrators did not always get input from teachers before adding and deleting assessments. Clearly, school and/or district administrators needed to focus on the overall achievement of the student population for accountability purposes. Furthermore, the PSSA was a state-required assessment. Consequently, administrators were increasingly eliminating other school-wide tests. These decisions were meant to reduce the amount of testing for students. However, the result was that the tests given did not provide the data these teachers needed and the tests that would have provided that data were no longer given.

It is worth repeating that prior to the 2005-06 school year, sixth-grade students and seventh-grade students did not take the reading PSSA. While the sixth-grade teachers involved in the study had their students' PSSA scores from fifth grade, the seventh-grade teachers did not have PSSA scores from the previous year for their students. At the time of this study, none of the sixth- or seventh-grade teachers had PSSA scores from the current year for their students.

Second, middle school teachers were generally responsible for a large number of students. This made it unrealistic for middle school teachers to administer an individualized test that could give them better data. The special education teachers in all three schools and the Title 1 teachers in School C were able to and did use individualized tests such as informal reading inventories and fluency tests. On the other hand, time constraints made this testing impractical for regular education reading teachers in middle schools. Regular education teachers used individual teacher-developed tests and performance assessments tied into their curriculum more frequently than special education teachers did to identify low-performing reading students.

Next, teachers viewed online assessments as fantastic tools that made individualized testing manageable and provided immediate data to use for instructional decisions. However, these programs were expensive and few of the teachers had access to them. Federal funding and accountability may have increased the likelihood of these programs being used in low-performing schools, but high-performing schools may not have seen a justification for financially investing in these programs.

Last, School C was the only one of the three schools to use benchmark tests to identify low-performing students. These tests were aligned with the state test and administered throughout the year. Teachers in School C used these tests to identify students who needed additional support to become proficient on the PSSA. Many low-performing schools had

invested in this assessment tool in an effort to raise the percentage of students at or above the proficient level and meet AYP. As these study results seem to imply, schools not faced with this challenge seemed less inclined to invest in this assessment.

Another issue surfaced when analyzing the data teachers used to identify low-performing students. Teachers seemed to possess limited knowledge of outcome metrics. Though psychometrically less valid, grade equivalent on norm-referenced tests was used more often by teachers to identify low-performing reading students than was the more statistically valid stanine.

Research Question 2 – What data do teachers use for the identification of reading strengths and weaknesses of low-performing students in high-performing suburban middle schools?

All of the teachers who participated in the study reported use of a variety of data to identify reading strengths and weaknesses of low-performing students. Whereas the initial goal of regular education teachers was to identify their low-performing students, the goal of special education teachers was to identify areas of strength and weakness and establish a base line from which to monitor progress.

While 75% of the teachers used results from the PSSA as one source of data to identify low-performing reading students, this assessment data appeared to be of less use as a tool for identifying reading strengths and weaknesses. There were relatively few items on the Reading PSSA to measure each of the eligible content standards. Therefore, the results that indicated whether a student attained proficiency did not seem specific enough to be of value for identifying individual deficits.

Comprehension tests were the most frequently used tool for identifying reading strengths and weaknesses of low-performing students. A majority of both regular education teachers and special education teachers used this type of assessment. However, special education teachers

used a variety of other tests not used by regular education teachers. The ability of special education teachers to test students individually and the requirements of Progress Monitoring seemed to have influenced this disparity.

One hundred percent of the special education teachers who completed the survey used oral reading tests to identify reading strengths and weaknesses. Special education teachers in all three schools used these types of tests for Progress Monitoring. However, each school used a different test. Special education teachers frequently administered oral reading tests throughout the year. The value of these tests was that they required little time to administer and had leveled word lists easily used to evaluate progress. The need to use the same test periodically reduced the special education teachers' use of individual teacher-developed tests, performance tests, and curriculum based tests.

While special education teachers regularly tested students and monitored their progress, they used the same type of test for all students. Though not all students had a deficit in oral reading, all the special education teachers in the study used oral reading tests to monitor progress. Several special education teachers stated that they received training in administering this type of test. They added that the trainers stated oral reading tests were a good indicator of comprehension. However, some challenged this assumption based on their observations. As a result, they had begun to assess recall of the stories used for fluency testing.

Larger class sizes and time constraints prohibited regular education teachers from using oral reading tests as frequently as special education teachers did. In addition to comprehension tests, regular education teachers were inclined to use individual teacher-developed tests, curriculum based tests, and performance tests to identify reading strengths and weaknesses. These tests were tied to the reading curriculum.

Special education teachers relied heavily on testing included in a student's IEP and testing done for Evaluation Reports to identify reading strengths and weaknesses. Most of these teachers had easy access to this data through an online data system. However, this data was not as accessible to regular education teachers and therefore not as frequently used by them.

Similar to the results from question one, the responses to question two seemed to indicate use of data based on what was accessible, what was mandated, what was comfortable for the teacher, and/or what was feasible based on time constraints and class size. The data used did not necessarily reflect the data that teachers believed to be most valuable for identifying reading strengths and weaknesses of low-performing reading students.

Research Question 3 – How are teachers in high-performing, suburban middle schools using data to make instructional decisions designed to meet the academic needs of low-performing reading students?

The majority of teachers involved in this study based their instructional decisions on student assessment data to some extent. Twenty-two out of the 32 teachers indicated these decisions were based "very much" on data. Nine of the remaining 10 teachers indicated these decisions were based "somewhat" on data. Only one teacher responded that his/her instructional decisions had "very little" basis in assessment data. This teacher did state in the interview that data probably would help him/her adjust or differentiate instruction.

During the interviews, teachers reported using data most to organize groups of students by ability level and provide additional time for reading instruction. These decision seemed to be somewhat based on external factors such as certification requirement for middle school teachers, staffing, and funding. School C seemed more influenced by these factors than the other two schools.

School C was the only Title 1 school in the study. This label indicated a high percentage of students receiving free or reduced lunch. While this school had more students with IEPs, it also had more teachers of reading. In addition to the language arts teacher on each team, this school had a reading support teacher for each sixth-grade team who was a certified reading specialist. Each sixth-grade team also had a special education resource teacher. The special education resource teacher taught the lowest-performing reading students who had an IEP.

Low-performing students who did not have an IEP and those who had an IEP but were able to be successful in a larger reading class were part of a reading review class. The team's language arts teacher and the Title 1 reading support teacher co-taught this class. These students were further grouped for novel studies three times a year. The Title 1 teacher used a lower level novel for the lowest-performing students from the reading review class. Many of the students from the review class also attended a reading intervention class taught by the Title 1 teacher two days out of a six-day rotation. The amount of time provided to low-performing students for reading instruction was influenced by Title 1 guidelines.

The content area teachers in School C were elementary certified and each taught one class of reading to the remaining sixth-grade students. That is, each sixth-grade social studies, science, and mathematics teacher in School C taught one reading class. None of the identified low-performing students were placed in these classes.

Likewise, School A had one homogeneously grouped reading class for their low-performing sixth-grade students. In addition, an after school-tutoring program was offered to low-performing reading students in this school.

School B did not homogeneously group their students in sixth-grade. However, every reading teacher in School B was a certified reading specialist. In addition, School B had a

reading support teacher who met with small groups of low-performing students once or twice a week.

Interestingly, none of the three schools homogeneously grouped low-performing students for reading in seventh grade. This could have been due to lack of additional staff or middle school teacher certification. Middle school certification requires seventh-grade teachers of reading to have either a reading specialist certification or a Mid-Level English certification.

While each of the three schools used various grouping strategies, grouping did not get to the specific needs of individual students who were low performing. To meet these needs, teachers reported devoting more class time to specific content and skills, changing teaching methodology, differentiating instruction, individualizing materials, and providing one-on-one tutoring. In general, teachers employed more than one strategy to meet the needs of their low-performing reading students. In fact, each instructional strategy on the list was used by at least 46.9% of the teachers.

Certain types of data seemed more useful than other types for guiding instructional decisions. Comprehension tests, oral reading tests, and individual teacher-developed tests were the assessment tools used by the most teachers to drive instructional decisions. Though data generated from the PSSA was useful to a majority of teachers for identifying low-performing reading students, the test was not frequent enough or specific enough, nor were the results timely enough to be of use to guide instruction designed to meet the needs of individual low-performing students.

While the majority of teachers felt strongly about using student assessment data to guide instructional decisions, several cautioned using data alone for this purpose. Teachers expressed

the value of daily observations of students and warned of the misunderstanding that can occur when students are poor test takers.

Online assessments that could make individualize testing manageable and could provide immediate feedback to guide instructional decisions were used by the lowest percentage of teachers. Though teachers viewed these assessments as valuable tools, the overall high achievement of the student population in these schools seemed to prevent the school and/or district from making the financial investment.

Research Question 4 – What data do teachers in high-performing, suburban middle schools use to monitor academic progress of low-performing reading students?

Regular education teachers and special education teachers tended to differ in their responses to this question. Several factors could have been responsible for this discrepancy.

The first possible factor was the state sponsored Progress Monitoring program involving special education teachers. This external accountability system is based on tests that have standard levels and can be used frequently to demonstrate student progress toward a set goal. This could explain why special education teachers were less inclined to use curriculum-based tests, performance assessments, and individual teacher-developed tests than regular education teachers.

The second possible factor for the discrepancy between regular education and special education teachers may have been class size and time needed to administer different types of tests. Oral reading tests were widely used by special education teachers in each of the three schools to monitor student progress. The one-on-one nature of this test prohibited regular education teachers' use.

While special education teachers in each school used an oral reading test to monitor student progress, different oral reading tests were used in each of the buildings. The teachers had received training on the assessment tool.

Teachers frequently used standardized tests such as the PSSA and norm-referenced tests to identify low-performing students. However, tests used to monitor student progress for instructional purposes had to be administered more frequently and be more sensitive to the academic growth of individual students. Therefore, the PSSA and norm-referenced tests had limited value to teachers who needed to monitor how their instructional strategies were affecting an individual student.

Use of the 4Sight test, which is aligned to the PSSA, was one way teachers in School A monitored the progress of their students against the state standards. This test was given several times during the school year. Additionally, the results were broken down by eligible content.

Teachers in School B did not administer the 4Sight test. They used results from norm-referenced tests to monitor student progress.

External accountability was a factor in the assessments used by teachers in School C to monitor student progress. Since School C was a Title 1 school, the school was required to submit reports on student assessment data to the state. Students had to become proficient based on three measures. Low-performing students in School C were assessed on a curriculum-based test eight times a year, an informal reading inventory at the beginning and end of the year, and a fluency test at the beginning, middle, and end of the year.

Research Question 5 – What role do resources in high-performing, suburban middle schools play in the teacher's ability to use data to make instructional decisions designed to meet the academic needs of low-performing reading students?

The availability of resources impacted a teacher's use of data to make instructional decisions. In general, schools and/or districts provided special education teachers with more of the necessary resources and these teachers used more data to monitor student progress and make instructional decisions based on student needs. Among the resources available to special education teachers were data systems that provided easy access to available data such as IEPs and data from the progress-monitoring test. In addition, special education teachers received professional development in use of data to guide instructional decisions.

On the contrary, the lack of these resources hindered the ability of regular education teachers to use data to make instructional decisions. None of the regular education teachers had a data system that provided easy access to available data. These teachers stated that they had to go through drawers of permanent record folders or stacks of papers to obtain information on each of their students. The high student-to-teacher ratio made this job daunting and limited the use of data.

Regular education teachers could also not access the IEP information that was available online to special education teachers. Regular education teachers commented that they obtained this information in the form of hard copies from special education staff or from the students' folders. However, they would have liked to have online access to this data.

Progress Monitoring was a key factor in the availability of resources for special education teachers. Special education teachers were required to assess their students frequently and report on student progress toward identified goals. In order to comply with these mandates, they needed easy access to a data system and professional development in the assessment tool.

Schools and/or districts may have been less inclined to supply these resources to regular education teachers due to the lack of external accountability requirements and the generally

higher levels of student performance among the regular education student population. Other than access to a computer in the classroom and technology support staff, the other resources listed on the survey were provided to fewer than 50% of the teachers.

Some resources were unavailable to both regular education teachers and special education teachers. High percentages of both groups of teachers were not provided with professional development in data analysis skills. Additionally, more than half of all the teachers found the lack of time to study and think about available data a hindrance to their ability to use data to make instructional decisions.

School A seemed to be an exception. The assistant superintendent in this district was an advocate of data-driven decision making and seemed to have a significant impact on the availability of resources to support the teachers' ability to use data to make instructional decisions. This school provided time for teacher to collaborate with each other about data. In addition, several assessments were used to provide relevant data from which to make instructional decisions. Furthermore, though regular education teachers in School A did not have access to data online, paper summaries and reports were provided for them.

4.1.4 Reflection

The federal No Child Left Behind Act may be leaving many children behind even in schools the accountability system has identified as high-performing. Because accountability is based on the percentage of high-performing students, the federal mandates of NCLB overlook the needs of the small percentage of low-performing students in these schools. Unless they are one of a minimum of 40 students in a designated subgroup, their achievement is not an accountability factor in many of these schools until the year 2014. In addition to ignoring the stigma that comes

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with being among the small percentage of low-performing students in these schools, the academic needs of these students may be lost in a system that focuses on measuring and reporting school and/or district academic achievement instead of promoting individual student learning.

This study looked at data use by reading teachers in three high-performing middle schools to address the needs of these low-performing students. In each of these buildings, the number of teachers who responded to the survey and who volunteered to be interviewed was overwhelming. The administrators were supportive of the study, and the staff gave freely of its time and knowledge. However, the researcher found that teachers in each of these three buildings used data to varying degrees. The extent of data use and the assessment data used were often a result of external factors as opposed to professional judgment of the individual teachers. Federal and state policy had an enormous impact on the use of data by reading teachers in this study.

The federal government has shifted its focus from educational inputs to educational outcomes since the Coleman report, *Equality of Educational Opportunity*. However, there remains a lack of equality in educational opportunity for low-performing students in high-performing schools. Under NCLB, high-performing schools inevitably focus resources on the subset of students whose achievement is necessary to satisfy AYP goals. Teachers of low-performing students not included in these accountability subgroups do not have equal access to these important resources. The inequality of resources for teachers translates into inequality of educational opportunity for students. This is especially true for regular education teachers and their students.

State policy requires special education teachers to monitor individual student progress. Unlike the AYP goals of NCLB, this mandate addresses the needs of all students with disabilities regardless of how many are present in a school. To facilitate compliance with this policy, special education teachers receive training in assessment tools and data use. In addition, these teachers have data systems that provide easy access to data. However, regular education teachers responsible for educating the majority of the students do not have these mandates. Consequently, they are less likely to be provided with these resources. The lack of these resources hinders their ability to use data to guide instructional decisions.

While federal and state policies have led to an increase of resources for some teachers, these mandates are often forcing teachers to make decisions based on compliance instead of best practice. Teachers are required to base instructional decisions on data from tests that are not sensitive to classroom instruction, do not address the academic strengths and weaknesses of their individual students, and/or do take into account the human development of each student.

For example, the PSSA is widely used to identify low-performing students. However, this test was designed to rank schools for the purpose of accountability. The tests is not frequent enough or specific enough, nor are the results timely enough to be of value to guide instructional decisions designed to meet the academic needs of individual students. Moreover, the mandatory PSSA testing has led schools to eliminate other school wide tests teachers found to be of more instructional value. Furthermore, practice tests aligned to the state assessment are replacing classroom assessments that have the potential to not only measure student learning but also to promote it.

Another source of data that teachers use for compliance that may not be sensitive to classroom instruction and individual student needs comes from oral reading tests. Many special

education teachers use oral reading tests to comply with state Progress Monitoring mandates. These tests are popular among these teachers because the tests can be administered individually in a short amount of time and can be given frequently.

 However, not every special education student has problems with reading fluency. Teachers are basing their use of this test on external factors that are not tied directly to the needs of individual students. Furthermore, the assessment data used for accountability is words per minute and does not involve an analysis of the miscues. Compliance with state mandates is resulting in testing practices that produce data that shows student achievement but does not guide differentiated instruction.

In an educational environment guided by easily administered tests and mandated achievement data, some low-performing reading students may not be getting exposure to rich literature based literacy programs. The short passages used for comprehension and fluency testing may be taking time from higher leveled reading materials that engage middle school students in thinking about and discussing topics of personal interest and encourage learning.

Federal and state policies are not the only factors that affect the use of data by teachers in high-performing schools. Without the external pressures that motivate teachers in low-performing schools to use data to improve overall student achievement, strong school leaders are necessary to galvanize teachers in high-performing schools to use data to address the academic needs of individual students.

Middle school reading teachers must overcome many obstacles to be able to use data to address the needs of their low-performing students. High teacher-to-student ratios, lack of easy access to relevant data, lack of data analysis skills, and time constraints are a few of the obstacles. Strong school leaders committed to the learning of every child are necessary for

teachers to rise above these obstacles. School leaders must work with teachers to identify and provide resources necessary to make instructional decisions designed to address the needs of every student. These resources should include data that enables teachers to go beyond helping students score at a certain level on a state test and provides insights to promote student inquiry and personal learning.

4.1.5   Implications for Policy

Federal policies associated with the No Child Left Behind Act and state policies associated with Progress Monitoring have had both a direct and an indirect impact on the use of data by middle school reading teachers. These policies have increased the number of available tests from which data is generated while simultaneously decreasing the use of some of those tests. Likewise, these policies have both augmented the availability of and masked the need for resources to support data-informed instructional decisions.

Based on the findings of this study and the literature review, several policy changes are recommended to advance the use of data by teachers in high-performing middle schools to improve the reading achievement of low-performing students.

4.1.5.1 *Policies Concerning Assessments*
NCLB requires states to create standards for what every child should know and learn in all grades and evaluate student progress toward those standards by using tests aligned with the state standards. These state tests generate new forms of data for teachers and the high stakes attached to this data encourage educators to use it to make instructional decisions. However, assessment data previously used by teachers is no longer available as schools eliminate or reduce the amount

of norm-referenced testing. On the other hand, the administration of benchmark tests aligned to the state test has increased.

Progress Monitoring is a state sponsored program that requires special education teachers to assess students frequently toward designated goals. Oral reading tests that teachers can administer individually and quickly are commonly used to monitor student progress. In addition, comprehension tests that students can complete without teacher input are widely used for this purpose. Conversely, there is a reduction in the use of curriculum-based tests, individual teacher-developed tests, and performance assessments by special education teachers. These assessment tools may be less valuable in measuring progress but might do more to promote student learning.

One of the positive outcomes of NCLB is the formulation in Pennsylvania of a set of assessment anchors and eligible content to guide curriculum and instruction at each grade level. However, the Reading PSSA includes few items to assess any one skill from the assessment anchors and eligible content. Therefore, in addition to not being timely enough, the results are not specific enough to use in targeting instruction for individual students.

4.1.5.2 *Recommendations for Assessment Policy*

There is an alternative to giving an annual test that has limited value beyond ranking schools and/or a benchmark test that has relatively few items to assess each skill. A series of shorter, online, formative assessments based on the assessment anchors and eligible content should be given throughout the year. Since testing of all the eligible content would not be confined to a period of several days or hours, more test items could be included for each skill assessed.

Results from these online assessments could be automatically reported to the state while also providing real-time data to teachers for identify reading strengths, reading weaknesses, and

adjusting instruction. Instructional interventions could be followed by retesting of specific skills. The ability of students to retest only in areas of weaknesses, as opposed to the retaking of an entire benchmark test several times a year or every student being tested on fluency, makes this assessment system as individual as the students we are assessing. This shifts the focus from school achievement levels to student learning.

Even in high-performing middle schools, it is unrealistic to expect all students to achieve at the same levels. It is important that any changes to assessment policies address the needs of each individual student and do not mask the needs of any students by basing accountability on overall student performance or performance of subgroups with a minimum of 40 students. As with the progress monitoring of special education students, the state should base accountability on academic growth of each individual student toward a goal. However, the goal should be personal and based on the needs of each student.

While using the assessment anchors and eligible content as guidelines for instruction, teachers would have flexibility in the sequence of skill instruction and consequently the sequence of testing. In this way, testing would be guided by the curriculum instead of the current practice in some schools of using preparation for the test as the curriculum.

4.1.5.3 *Policies Concerning Resources*

Federal and state policies are also linked to school and/or district allocation of resources. Reporting mandates of NCLB have forced districts to invest in data systems. Districts and schools rely on these systems to organize the data necessary to demonstrate attainment of AYP targets. In addition, special education teachers have been provided access to data systems to comply with state mandated Progress Monitoring. On the other hand, the lack of external mandates results in little attention being given to the need regular education teachers have for a

data system to make student assessment data easily accessible. However, regular education teachers are responsible for educating the majority of middle school students.

4.1.5.4 *Recommendations for Resource Policy*

While availability of resources to aid in data-driven decision making should not be dependent on federal or state policies, policy changes could encourage schools and/or districts to provide these resources to all teachers. Policies that require the monitoring of academic progress of all students could help balance the distribution of these resources. An online assessment system would create more useful and timely data for instructional purposes, promote the use of data-driven decisions, and require schools to provide data systems to all teachers.

Technical capacity is just one aspect of a successful data-driven school culture. Policies are needed to build human capacity in the utilization of data systems and the use of data in instructional decisions. To that end, principal and teacher certification programs should require training in data analysis. Certification programs for special education teachers should require additional training in reading assessments. Districts should be obligated to provide professional development in progress monitoring to regular education as well as special education teachers. Even high-performing schools should be required to follow a knowledge management protocol that enables teachers to collect and analyze data, transform data into information through collaborative discourse, and build communities for knowledge sharing.

4.1.6 Implications for Practice

Based on the findings of this study and the literature review, several recommendations are made for actions that districts, schools, and teachers can take to advance the use of data by teachers in high-performing middle schools to improve the reading achievement of low-performing students.

4.1.6.1 *Recommendations for Districts*

- Districts would benefit from a focus on data that goes beyond school and district level accountability to data necessary to address the needs of individual students.

- Districts would benefit from a teacher-friendly data system.

- Districts would benefit from teacher input in the design of data systems.

- Districts would benefit from teacher input when making decisions about adding or deleting school-wide assessments to ensure relevant data is available to guide instructional decisions.

- Since the teacher-to-student ratio is typically much higher in middle school than it is in elementary school, districts should include a diagnostic reading test at the end of elementary school.

- District would benefit from hiring principals who are knowledgeable in data analysis and can lead a staff in developing and using these skills.

- Districts would benefit from hiring teachers of reading who are knowledgeable about available assessments, adept at using data to guide instructional decisions, and experienced in using best practices to improve student learning.

- Districts would benefit from developing human capacity to use data to improve student learning by identifying what teachers and principals need to know, learn, and be able to do.

- Districts would benefit from providing professional development based on identified needs of staff.

- Districts would benefit from sending teams of teachers and administrators to the state training on data-driven decision making.

- Districts would benefit from ensuring that every teacher has a computer in his/her classroom hooked up to the district data system to provide easy access to student data.

- Districts would benefit from designing a knowledge-management protocol that enables teachers to collect and analyze data, transform data into information through collaborative discourse, and build communities for knowledge sharing.

- Districts would benefit from creating time for teachers to engage with data.

4.1.6.2 *Recommendations for Schools*

- School leaders would benefit from scheduling progress-monitoring training opportunities for special education teachers and regular education teachers.

- School leaders would benefit from creating time for professional development opportunities on data technology tools, data analysis, and use of data to guide instruction.

- School leaders would benefit from providing time for teachers to meet collaboratively with other teachers to identify best practices needed to improve student learning.

- School leaders would benefit from creating a school climate where data is viewed as a valuable tool to guide instruction and not as an evaluative tool.

- School leaders would benefit from identifying staff responsible for guiding staff through the knowledge-management protocol.

- School would benefit from scheduling extra instructional time for low-performing reading students.

4.1.6.3 *Recommendations for Teachers*

- Teachers would benefit from using multiple assessments to drill down to what students need.

- Teachers would benefit from identifying root causes of reading problems and adjusting instruction.

- Teachers would benefit from following formative assessments with instructional interventions or acceleration.

- Teachers would benefit from using student assessment data to reflect on the effectiveness of their instruction and make changes based on research-based best practices.

- Teachers would benefit from taking advantage of professional development opportunities both within and outside the school.

- Teachers would benefit from using data to illuminate, confirm, and/or dispute their intuition.

- Teachers would benefit from using online assessment tools to design individualized student exercises.

- Teachers would benefit from meeting collaboratively with other teachers to analyze data and identify best practices needed to improve student learning.

- Teachers would benefit from using assessments that move beyond mandated progress monitoring and address the needs of the individual child.

- Teachers would benefit from using data beyond achievement data when making instructional decisions.

- Teachers of low-performing middle school students would benefit from providing higher leveled reading materials to their students to engage them in thinking about and discussing topics of personal interest and encourage learning.

- Teachers of low-performing students would benefit from focusing on story elements, figurative language, and other eligible content items that go beyond basic fluency and comprehension.

4.1.6.4 *Recommendations for Future Research*

Based on the findings of this study and the literature review, several recommendations are made

for future research.

- Expand this study to include more high-performing middle schools.

- Identify how special education teachers are using Progress Monitoring data to adjust instruction.

- Investigate how student-grouping practices affect academic progress of low-performing students in high-performing middle schools.

- Compare academic progress of low-performing students in low-performing schools to that of low-performing students in high-performing schools.

- Investigate how homogeneous grouping practices affect the self-concept of low-performing middle school students.

- Investigate how PVAAS and PSSA testing of all middle school students have affected teacher use of data.

LETTER TO SUPERINTENDENTS

University of Pittsburgh

School of Education

February 22, 2006

Dear Dr._____:

I am a doctoral student at the University of Pittsburgh and a reading teacher in the _____ School District. The purpose of my study is to obtain information on data use by teachers in high-performing, suburban middle schools to improve reading achievement of low-performing students. _____Middle School has been identified as high-performing based on results from the eighth grade 2004-05 Reading PSSA.

The No Child Left Behind legislation has asked districts and schools to think differently about educational decision-making and the use of data; however, the literature on data-driven decision-making tends to focus on school improvement. There is a lack of research on the role of data use at the classroom level.

Since reading achievement is one of the areas upon which schools are held accountable, this will be the focus of my study. I hope to obtain valuable information on how teachers use data to identify low-performing reading students, identify academic strengths and weaknesses of these students, monitor the academic progress of these students, and make instructional decisions designed to meet the academic needs of these students. Furthermore, I hope to identify the role resources play in the teachers' ability to use data to make instructional decisions. The research period will extend from March 2006 through June 2006.

I would appreciate your consent for teachers in the _____Middle School to participate in this study. I have designed a survey instrument to be completed by sixth grade and seventh grade teachers of reading. Completion of this survey should take less than 30 minutes. In addition, I would like to interview one sixth-grade reading teacher, one seventh-grade reading teacher, a learning support teacher, and/or a reading support teacher. The interviews will be scheduled at the teacher's convenience and will be approximately 30 minutes in length. Please be assured that all responses will remain confidential.

Should your staff participate in this study, I will provide you with a summary of the results. If you have any questions about this study at any time, please contact me at 412.555.6000 ext. 1234 or vanmaele@.k12.pa.us. Please sign below if you grant permission to have this research conducted at your middle school. Thank you for your time and consideration to this research endeavor.

Sincerely,

Deborah Van Maele
Doctoral Student

Signature_____ Date_____

University of Pittsburgh
School of Education

LETTER TO MIDDLE SCHOOL PRINCIPALS

March 13, 2006

Dear _____:

I am a doctoral student at the University of Pittsburgh and a reading teacher in the Hampton Township School District. The purpose of my study is to obtain information on data use by teachers in high-performing, suburban middle schools to improve reading achievement of low-performing students. _____ Middle School has been identified as high-performing based on results from the eighth grade 2004-05 Reading PSSA.

The No Child Left Behind legislation has asked districts and schools to think differently about educational decision-making and the use of data; however, the literature on data-driven decision-making tends to focus on school improvement. There is a lack of research on the role of data use at the classroom level.

Since reading achievement is one of the areas upon which schools are held accountable, this will be the focus of my study. I hope to obtain valuable information on how teachers use data to identify low-performing reading students, identify academic strengths and weaknesses of these students, monitor the academic progress of these students, and make instructional decisions designed to meet the academic needs of these students. Furthermore, I hope to identify the role resources play in the teachers' ability to use data to make instructional decisions. The research period will extend from March 2006 through June 2006.

Dr. _____ has given me permission to have teachers in your building participate in this study. I have designed a survey instrument to be completed by sixth grade and seventh grade teachers of reading. Completion of this survey should take less than 30 minutes. In addition, I would like to interview one sixth-grade reading teacher, one seventh-grade reading teacher, a learning support teacher, and/or a reading support teacher. The interviews will be scheduled at the teachers' convenience and will be approximately 30 minutes in length. Please be assured that all responses will remain confidential.

Should your staff participate in this study, I will provide you with a summary of the results. If you have any questions about this study at any time, please contact me at 412.486.6000 ext. 2048 or vanmaele@htsd.k12.pa.us. Please sign below if you grant permission to have this research conducted at your middle school. Thank you for your time and consideration to this research endeavor.

Sincerely,

Deborah Van Maele
Doctoral Student

Signature_____   Date_____

University of Pittsburgh
School of Education

LETTER TO TEACHERS

April 20, 2006

Dear Mrs. _____:

       I am a doctoral student at the University of Pittsburgh and a reading teacher in the _____ School District. I have received permission from Dr. _____ and Mr. _____ to have teachers in your building participate in my research study. The purpose of this study is to obtain information on the use of data by teachers to improve reading achievement of low-performing students. Three high-performing, suburban middle schools are the focus of the study.

       In a few days, you will receive an e-mail containing a survey. As a fellow middle school reading teacher, I realize that your schedule is busy and your time is valuable. Your voluntary completion of this survey should take less than 15 minutes. The last item on the survey is an opt-in question for a follow-up interview. Should you be willing to participate, the interview will be scheduled at your convenience. Interviews will last approximately 20 minutes. If you choose, you may withdraw from this study at any time. I will be the only person recording and analyzing your responses and agree to keep the identities of all participants and their responses confidential.

       If you have any questions, please contact me at 412.555.6000 ext. 1234 or at vanmaele@k12.pa.us. The results of this study will be provided to participants in an executive summary upon request. Thank you for your time and consideration to this research endeavor.

Sincerely,

Deborah Van Maele
Doctoral Student

APPENDIX B

TEACHER SURVEY

DATA USE BY TEACHERS TO IMPROVE READING ACHIEVEMENT

*1.   **Which of the following describes your current teaching position? Please select all that apply.**

❏ Grade 6 developmental reading teacher

❏ Grade 6 special education reading teacher

❏ Grade 6 reading support teacher

❏ Grade 7 developmental reading teacher

❏ Grade 7 special education reading teacher

❏ Grade 7 reading support teacher

❏ Other (please specify

2.   **Total number of sixth-grade reading students you teach.**

3.   **Total number of seventh-grade reading students you teach.**

*4. **Which of the following assessment data do you use to identify low-performing reading students? Please select all that apply.**

❑ Grade equivalent on norm-referenced test (SAT, Terra Nova, etc.)
❑ Stanine on norm-referenced test
❑ Overall reading proficiency level on PSSA
❑ Proficiency level for specific reading anchor on PSSA
❑ Growth from Pennsylvania Value Added Assessment System (PVAAS
❑ Results of benchmark test (4Sight, etc.)
❑ Results from online assessment (Homeroom.com, Study Island, etc.)
❑ Report card grade
❑ Grade on curriculum based test
❑ Grade from individual teacher developed test
❑ Performance on portfolio, project, presentation, etc.
❑ Results from informal reading inventory (IRIs)
❑ Results from oral reading test
❑ Results from comprehension test
❑ None
❑ Other (please specify)

*5. **Once you have identified low-performing students, which of the following assessment data do you use to identify their reading strengths and weaknesses? Please select all that apply.**

❑ Norm-referenced test (SAT, Terra-Nova, etc.)
❑ PSSA
❑ Benchmark test (4Sight, etc.)
❑ Online assessment (Homeroom.com, Study Island, etc.)
❑ Curriculum Based unit test
❑ Individual teacher developed test
❑ Performance test (portfolios, projects, presentations, etc.)
❑ Informal reading inventory
❑ Oral reading test
❑ Comprehension test
❑ None
❑ Other (please specify)

*6. **To what extent are your instructional decisions designed to meet the academic needs of low-performing reading student based on student assessment data**

Very Much	**Somewhat**	**Very Little**	**Not at all.**
❑	❑	❑	❑

*7. **Which of the following instructional decisions have you made to meet the academic needs of low-performing reading students? Please select only those strategies which were based on student assessment data. Check all that apply.**

❑ Devote more class time to specific content and skills

❑ Adjust sequence of skills instruction

❑ Add, delete, or change skills taught

❑ Change teaching methodology (Ex. Lecture, cooperative learning, student inquiry)

❑ Differentiate instruction for small groups

❑ Organize groups by ability level

❑ Individualize materials

❑ Provide one-on-one tutoring

❑ I have not used student assessment data to make any of the above instructional decisions
❑ Other (please specify)

*8. **How useful was each of the following types of assessment data in guiding the instructional decisions you identified in items 5? (Please check the N/A column if you do not use a particular type of data.)**

	Very Useful	Somewh at Useful	Of Little Use	Not Useful	N/A
Grade equivalent on norm-referenced test (SAT, Terra Nova, etc.)	❑	❑	❑	❑	❑
Stanine on norm-referenced test	❑	❑	❑	❑	❑
Overall reading proficiency level on PSSA	❑	❑	❑	❑	❑
Proficiency level for specific reading anchor on PSSA	❑	❑	❑	❑	❑
Growth from Pennsylvania Value Added Assessment System (PVAAS	❑	❑	❑	❑	❑
Results of benchmark test (4Sight, etc.)	❑	❑	❑	❑	❑
Results from online assessment (Homeroom.com, Study Island, etc.)	❑	❑	❑	❑	❑

	Very Useful	**Somewh at Useful**	**Of Little Use**	**Not Useful**	**N/A**
Report card grade	❑	❑	❑	❑	❑
Grade on curriculum based test	❑	❑	❑	❑	❑
Grade from individual teacher developed test	❑	❑	❑	❑	❑
Performance on portfolio, project, presentation, etc.	❑	❑	❑	❑	❑
Results from informal reading inventory (IRIs)	❑	❑	❑	❑	❑
Results from oral reading test	❑	❑	❑	❑	❑
Results from comprehension test	❑	❑	❑	❑	❑

*9.   What assessment data do you use to monitor academic progress oflow-performing reading students? Please select all that apply.

❑ Grade equivalent on norm-referenced test (SAT, Terra Nova, etc.)
❑ Stanine on norm-referenced test
❑ Overall reading proficiency level on PSSA
❑ Proficiency level for specific reading anchor on PSSA
❑ Growth from Pennsylvania Value Added Assessment System (PVAAS
❑ Results of benchmark test (4Sight, etc.)
❑ Results from online assessment (Homeroom.com, Study Island, etc.)
❑ Report card grade
❑ Grade on curriculum based test
❑ Grade from individual teacher developed test
❑ Performance on portfolio, project, presentation, etc.
❑ Results from informal reading inventory (IRIs)
❑ Results from oral reading test
❑ Results from comprehension test
❑ None
❑ Other (please specify)

*10. **Which of the following resources have been provided by your school and/or district to support your ability to use data to make instructional decisions? Please select all that apply.**

❑ Time to study and think about available data
❑ Time to collaborate with others in analyzing and interpreting data
❑ Professional development in data analysis skills
❑ Professional development in use of student data to guide instruction
❑ Technology support staff
❑ Data summaries or reports to make large amounts of data manageable
❑ Access to computer in classroom
❑ Classroom computer linked to district database
❑ Data system that provides easy access to existing data
❑ Sufficient amount of data
❑ Relevant data
❑ Other (please specify)

*11. **Which of the following factors have hindered your ability to use data to make instructional decisions? Please select all that apply.**

❑ Lack of time to study and think about available data
❑ Lack of time to collaborate with others in analyzing and interpreting data
❑ Not enough professional development in data analysis skills
❑ Not enough professional development in use of student date to guide instruction
❑ Personal discomfort with data analysis
❑ Lack of technology support staff
❑ Data too complex to be of use
❑ Lack of access to computer in classroom
❑ Lack of access to district database
❑ Data system does not provide easy access to existing data
❑ Insufficient amount of data
❑ Available date is nor relevant
❑ None
❑ Other (please specify)

*12. **How important do you believe each of the following resources is in making date-driven instructional decisions designed to meet the academic needs of low-performing reading students?**

	Very Important	Somewhat Important	Of Little Importance	Not Important
Time to study and think about available data	❑	❑	❑	❑
Time to collaborate with others in analyzing and interpreting data	❑	❑	❑	❑
Professional development in data analysis skills	❑	❑	❑	❑
Professional development in use of student data to guide instruction	❑	❑	❑	❑
Technology support staff	❑	❑	❑	❑
Data summaries or reports to make large amounts of data manageable	❑	❑	❑	❑
Access to computer in classroom	❑	❑	❑	❑
Classroom computer linked to district database	❑	❑	❑	❑
Data system that provides easy access to existing data	❑	❑	❑	❑
Sufficient amount of data	❑	❑	❑	❑
Relevant data	❑	❑	❑	❑

*13. **Would you be willing to participate in a follow-up interview? The interview will last approximately 30 minutes and will be scheduled at your convenience. Names of participants and their responses will remain confidential.**

Yes	No
❑	❑

INTERVIEW PROTOCOL

Data Use by Teachers to Improve Reading Achievement

Interview Protocol

1. At the beginning of the school year, what assessment data is available to you for your new students?

2. Of the available data, which do you use to identify your low-performing reading students and why?

3. Is there data you would like to have at the beginning of the year that is not available to you?

4. What is your level of comfort with using data to identify and meet the academic needs of low-performing reading students? What factors have had the greatest impact on your comfort level?

5. In your opinion, how important is it to use student assessment data as a basis for instructional decisions designed to meet the academic needs of low-performing reading students?

6. What assessment data do you find most useful for monitoring the academic progress of low-performing reading students?

7. What changes, if any, have you seen in the achievement of low performing students because of your use of data to drive instruction?

8. Have you been involved in analyzing student data as a member of a school team? If so, what was the composition of the team and how was it formed?

9. How has your school made time for teachers to interact with data to guide instructional decisions?

10. What professional development have you received to promote data-driven decision-making?

11. Does your district have an easily accessible data system? If so, how frequently have you used it to access student data?

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