School Improvement in Petersburg: A Comprehensive Three-Year Study of the Partnership for Achieving Successful Schools Initiative Model IV Intervention

Final Evaluation Report

Prepared by

Joanna Edwards
Karen Smith
Linda Marr
Laura Wyshynski

The CNA Corporation

December 2005

for

Appalachia Educational Laboratory (AEL)

at

EDVANTIA™

Partners in education. Focused on results.

Edvantia is a nonprofit education research and development corporation, founded in 1966, that partners with practitioners, education agencies, publishers, and service providers to improve learning and advance student success. Edvantia provides clients with a range of services, including research, evaluation, professional development, and consulting.

For information about Edvantia research, products, or services, contact

EDVANTIA™

PO Box 1348, Charleston, WV 25325 • 304.347.0400 • 800.624.9120 • fax 304.347.0467
One Vantage Way, Suite D-210, Nashville, TN 37228 • 615.565.0101 • fax 615.565.0112
info@edvantia.org • www.edvantia.org

Edvantia was founded in 1966 as the Appalachia Educational Laboratory, Inc. (AEL); on September 1, 2005, AEL became Edvantia, Inc. The Regional Educational Laboratory for the Appalachian region is known as the Appalachia Educational Laboratory at Edvantia.

This publication is based on work sponsored wholly or in part by the Institute of Education Sciences (IES), U.S. Department of Education, under contract number ED-01-CO-0016. Its contents do not necessarily reflect the positions or policies of IES, the Department, or any other agency of the U.S. government.

CONTENTS

EXECUTIVE SUMMARY vi
Findings vi
Recommendations vii
INTRODUCTION 1
Purpose of This Report 2
Model IV Intervention 2
School Improvement Specialists 2
Central Office Specialist 3
School Improvement Plan 4
Target Group 4
Evaluation Plan 4
STANDARDS OF LEARNING 7
Analysis of SOL Results 7
Summary of SOL Findings 10
ROLE OF THE SCHOOL IMPROVEMENT SPECIALISTS 11
Data Sources 11
Monthly Contractor Report and Invoice 12
Interviews 12
School Improvement Specialist Field Notes 12
School Improvement Specialist Activities, Overall 12
Level of Effort and Contacts 14
Accomplishments 14
School Improvement Specialist Activities, by Theme 15
Building Trust and Cooperation 15
Leadership Dynamics 16
School Board 16
Central Office 17
Individual Schools 18
Coordinating Efforts Between Schools and Central Office 19
A Plethora of Programs 20
Turnover 20
Back to Basics 21
Central Office Specialist 22
Summary 23
MERITS OF THE SCHOOL IMPROVEMENT PLANS 24
School-Level Academic Review Rubric 24

Summary 25
PERCEPTIONS OF CONTINUOUS IMPROVEMENT AND CAPACITY FOR IMPROVEMENT 27
Continuous School Improvement Questionnaire 27
Measure of School Capacity for Improvement 30
Summary 34
CONCLUSIONS AND RECOMMENDATIONS 35
Conclusions 35
Standards of Learning 35
Role of the School Improvement Specialists 36
Merits of the School Improvement Plans 38
Learning Communities and Capacity for Improvement 39
Recommendations 39
Institutionalize the Central Office Specialist Position 39
Fully Utilize School Instructional Specialists 39
Fully Utilize School Improvement Plans (SIPs) 40
Set Target Dates for Achieving SIP Objectives 40
Continue to Monitor Schools' Progress 40
Act to Stabilize the Teaching and Leadership Staff 40
APPENDIXES
A: School-Level Academic Review School Improvement Plan, Data Collection Summary Sheet
B: School-Level Comparisons of Changes in Percentages of Students Passing SOL Tests
C: Trend Lines for Average Percentages of Students Passing SOL Tests
D: School Improvement Plan Content Indicators
E: School-Level Descriptive Statistics from the Continuous School Improvement Questionnaire
F: School-Level Descriptive Statistics from the Measure of School Capacity for Improvement

LIST OF TABLES

Table 1 Increases (or Decreases) in the Percentages of Students Passing SOL Tests Before (1998-2002) and After (2003-2004) the Intervention: Petersburg Schools, Comparison Schools, and the State Average 8

Table 2 Petersburg School Improvement Plans: Indicator Deficiencies, 2004-2005 School Year....25

Table 3 Petersburg Schools' Percentage Gains on the Continuous School Improvement Questionnaire, 2002-2005....28

Table 4 Descriptive Statistics for Overall School Division Matched Pairs on the Continuous School Improvement Questionnaire, 2002-2005....29

Table 5 Results of Paired *T* Tests and Associated Effect Sizes for Continuous School Improvement Questionnaire, Petersburg City Schools, All Schools Combined ...30

Table 6 Petersburg Schools' Percentage Gains on the Measure of School Capacity for Improvement, 2003-2005....32

Table 7 Descriptive Statistics for Overall School Division Matched Pairs on the Measure of School Capacity for Improvement, 2003-2005 33

Table 8 Results of Paired *T* Tests and Associated Effect Sizes for the Measure of School Capacity for Improvement, Petersburg City Schools, All Schools Combined....33

FIGURE

Figure. Fifth-Grade Science SOL Test Trends for Petersburg Schools, Richmond Comparison Schools, and the State Average 9

Executive Summary

Dr. Jo Lynne DeMary, Virginia's state superintendent of public instruction, requested that the Appalachia Educational Laboratory at Edvantia work in partnership with the Virginia Department of Education and Petersburg City Schools to design and test the Partnership for Achieving Successful Schools Initiative (PA+SS) Model IV Intervention. The goal was to help the schools in Petersburg move toward full accreditation in the state's accountability system. Unlike three other intervention models being tested in Virginia, Model IV called for placing one school improvement specialist in each of the division's 10 schools and another school improvement specialist in the central office. Of the four models, only Model IV involves working at the school division's central office. Edvantia selected The CNA Corporation (CNAC) to conduct a formative and summative evaluation of the Model IV Intervention implementation and impact.

This report presents the final evaluation findings for the Model IV Intervention implemented in the Petersburg City Schools Division during school years 2002-2003 through 2004-2005 of the 3-year divisionwide school improvement project. The report presents an analysis of the fidelity with which the intervention was implemented. It explores the role and effectiveness of the school improvement specialists; the collaboration among the division's central office, the schools, and school improvement specialists; the completeness of each school's School Improvement Plan (SIP); and the changes that have occurred in school climate and capacity for improvement. Included is a comparative analysis of the percentages of students passing the Standards of Learning (SOL) tests in Petersburg and comparison schools during the four years prior to the Model IV Intervention and the two years for which student achievement data are available since the intervention was initiated.[*]

Findings

Overall findings at the end of Year 3 are mixed. On the one hand, implementation of the Model IV Intervention in Petersburg schools was achieved through the dedication of the school improvement specialists, the central office specialist, the schools' instructional specialists, and the school leaders' efforts to collaborate and build school capacity. These efforts were enhanced by the central office specialist during the third year with the creation of the Central Office Support Team (COST). The schools' instructional specialists also were trained in data analysis and coached by the improvement specialists to take leadership roles in the reform effort. On the Continuous School Improvement Questionnaire (CSIQ), which revealed professional staffs' perceptual evidence of school improvement, staff reported improvement on all six components measured by the CSIQ over the course of the intervention. An assessment of each school improvement plan (SIP) provided further evidence that the intervention components focused on improving the planning process were implemented with fidelity throughout the division. Because Standards of Learning (SOL) test scores were not yet available from the third year of the intervention, evidence about the long-term impact on student achievement as measured by the SOL exams is inconclusive. However, SOL data from Years 1 and 2 of the intervention show an overall increase in pass rates for the majority of students at the elementary, middle, and high

[*] Student achievement data from the third year of the intervention were not yet available at the time this report was written. Therefore, evaluation data include 3 years of all data except student achievement outcomes, for which there are data from the first two years of the intervention.

school levels. A trend line analysis shows that most of these pass rates are increasing at a greater rate since the implementation of the program. The increasingly rapid rise in pass rates during the study period suggests that the PA+SS Model IV Intervention may be having a positive impact on school improvement.

On the other hand, the Model IV Intervention appeared to have been hampered by a school board that did not appear to stand united in its support of the intervention. The instability of leadership during the study period (there were three different superintendents in 3 years) also might have hindered implementation fidelity, especially during the first year. Staff in the schools perceived the schools' capacity for improvement to decrease or remain unchanged during the study period. In addition, there are some endemic issues that plague the Petersburg City Schools Division such as high professional turnover rates, low numbers of highly qualified teachers, difficulties in instituting systemic change, and a perceived continuing lack of full collaboration between the central office staff and school staff. In spite of these problematic issues, portions of the Model IV Intervention were successfully implemented. After a slow start, school improvement specialists were able to gain the trust of principals and staff, provide guidance in data-driven decision making, help the school improvement planning committees develop and maintain the SIPs, and elicit increased collaboration between central office staff and school faculty.

Because the Petersburg City School Division has a high staff turnover rate, school capacity for improvement is always in flux, as are leadership quality, teacher quality, and curriculum continuity. To help address these issues, the Virginia Department of Education made available an extra $1 million to be used as signing bonuses in hiring qualified teachers, with the stipulation that these newly hired teachers must commit to remaining in the division for 3 years.

Recommendations

The school division should consider the following steps to sustain gains and support continued improvement:

- Institutionalize the central office school improvement specialist and ensure the continuance of the COST program. This might be accomplished by creating a permanent position or by assigning the specialist's responsibilities to a central office staff member who has the necessary qualifications.
- Call upon (and support) each school's instructional specialist, to whom the school improvement specialists provided valuable data analysis support and instruction, to provide instruction in data analysis and to perform data analysis as needed.
- Set target dates for achieving school improvement objectives. Instead of requiring schools to implement the entire SIP at once, the SIP might better be administered in an easily managed order, predetermined either at the central office level or at the individual school level and supported by the central office.
- Act to stabilize the teaching and leadership staffs. The recently approved signing bonuses are a positive move toward addressing the faculty turnover rates in the division. Moving toward stability in teaching and leadership staffs may provide the necessary continuity to implement multiyear reform efforts successfully.

Introduction

In its efforts to improve student achievement, the Virginia Department of Education is interested in determining best practices for supporting low-performing schools. "Low performing" refers to those schools that do not meet the standards established and monitored by the state board of education, which has no legal authority to take over failing schools. The Petersburg City Schools Division was selected as a test site for one of the four model interventions because its seven elementary schools, two middle schools, and one high school have a history of poor student achievement.[1]

Dr. Jo Lynne DeMary, Virginia's state superintendent of public instruction, requested that the Appalachia Educational Laboratory at Edvantia work in partnership with the Virginia Department of Education and Petersburg City Schools to design and test the Partnership for Achieving Successful Schools Initiative (PA+SS) Model IV Intervention. The goal was to help the schools in Petersburg move toward full accreditation in the state's accountability system. Edvantia selected The CNA Corporation (CNAC), a private, nonprofit research and evaluation organization, to conduct an independent but coordinated evaluation of the PA+SS Model IV Intervention project in Petersburg City Schools.

Model IV Intervention is one of four models now being tested by the Virginia Department of Education as part of the PA+SS project. Each model provides technical assistance, but each takes a different approach depending on the level of need in the school or school system. Model I utilizes a state team of educators who conduct academic reviews at the school level. The team looks for evidence of best practices, uses of data, curriculum alignment, and professional development. Team members review test scores, conduct classroom observations, and interview principals. Areas identified for improvement become "Essential Actions" that are formulated as recommendations and incorporated into the school improvement plan (SIP) soon after the visit. After the initial school visit, the academic review team follows up at each school through a series of visits to determine whether implementation of the Essential Actions was accomplished. The Model II intervention functions in the same way, with one exception: an external teacher and principal make monthly visits to schools that are *accredited with warning*. The Model III intervention involves all the elements of Models I and II but also includes assistance from an external principal, trained in school improvement theory and strategies, who is assigned to work one week per month with the principal and faculty in each school accredited with warning.

The Model IV Intervention, unlike other models, involves working at the school division's central office. It calls for placing a school improvement specialist in each school and another school improvement specialist in the central office (referred to as the central office specialist). The intervention is the most intensive of the four models and is aligned with the state requirement that a school division have an improvement plan when there is little improvement in student achievement.

[1] The Petersburg school division also includes two alternative schools. They are not included in this evaluation.

Purpose of This Report

This report presents the evaluation findings for the Model IV Intervention implemented in the Petersburg City School Division during Years 1, 2, and 3 (school years 2002-2003 through 2004-2005) of the 3-year divisionwide school improvement project. The report presents an analysis of the fidelity with which the intervention was implemented. It explores the role and effectiveness of the school improvement specialists, the collaboration among the division's central office and the schools and school improvement specialists, the completeness of individual SIPs, and the changes that have occurred in the school's capacity for improvement and in the faculty's perceptions of themselves as continuously improving. This report also presents a comparative analysis of the percentages of students passing the Standards of Learning (SOL) tests in Petersburg and Richmond City Schools during the four years prior to the Model IV Intervention and the two years for which data are available since the intervention was initiated.

Model IV Intervention

During the 2002–2003 school year, the Virginia Department of Education and the Appalachia Educational Laboratory at Edvantia began implementing Model IV of the PA+SS project in Petersburg City Schools. The implementation continued through the 2004-2005 school year and was completed in the spring of 2005. The intervention provides a system of external facilitation. The long-term goal is to improve student achievement to levels that ensure full accreditation in compliance with the state accountability model. In the short term, the intervention aims to ensure that

- data are used to make sound instructional decisions at both the school and district levels
- school and district faculty and staff have the skills needed to develop strategic improvement plans based on these data
- structures are in place and used for monitoring the fidelity with which the strategic plan is being implemented

Model IV focuses school improvement planning in specific skills, concepts, and content by funding school improvement specialists to serve as external facilitators in each school that is accredited with warning. A warning status indicates that the school has not fully met state accreditation standards, particularly those related to student achievement. To help facilitate school improvement, the school improvement specialist is a member of the school improvement committee and has direct input into the development of the school improvement plan (SIP). The Model IV Intervention also features a central office specialist who serves as an external facilitator at the central office level to ensure coordination of the individual school improvement plans with the division improvement initiatives. Following is a more detailed description of the three main features of the Model IV Intervention.

School improvement specialists. School improvement specialists are assigned to schools to provide support by guiding school personnel in assessing needs and developing strategic improvement plans. Each of the school-based school improvement specialists is an experienced, retired educator recommended by the Virginia Department of Education because he or she has successfully worked with low-performing schools. All receive training from Edvantia that

includes use of data for decision making, school improvement planning, curriculum alignment, and monitoring instruction. The specialists also receive in-depth training in facilitation skills.

The length of training sessions varied—some were held after school, some were held on teacher workdays, and others were held as preschool sessions. During the first year there were five 2-hour training sessions held after school and on teacher workdays. During the second year, school improvement specialists attended a 3-day workshop on writing school improvement plans and attended five to eight after-school and teacher workday sessions. During the third year, school improvement specialists attended a weeklong staff development seminar held for 6 hours each day. In addition, school improvement specialists attended five to eight after-school and teacher workday follow-up staff development workshops. The specialists met with each other monthly to reflect on their experiences in the schools and to receive additional training as needed.

The school improvement specialists played a role in assessing readiness for change and worked with the school leadership team to build a culture that is supportive, sustainable, and focused on improving student achievement. They were assigned to work on-site at a school at least one day each week. The role of the school improvement specialist was to

- support the principal, school leadership team, and teachers as they used data to determine the school's needs related to improving student achievement
- provide consultation, support, and direct service to the principal and school faculty as they developed a school improvement plan with goals, objectives, and strategies targeted to the areas of need found through data analysis
- provide support to the principal and faculty to implement the school improvement plan and monitor the success of the strategies

Central office specialist. Originally, all schools in the Petersburg City Schools Division were accredited with warning. Therefore, a school improvement specialist, referred to as the central office specialist, was assigned to work with the central administration for up to 20 hours each week. Because more intense central office support was required to accomplish the goals of the intervention, the central office specialist role expanded over time to four days per week. The role of the central office school improvement specialist was to

- coordinate and monitor the activities of the school improvement specialists at each school
- provide consultation and support to the central office administration to ensure that policies and practices supported the work of the schools in improving student achievement
- support the superintendent, central office leadership team, and school board as they used data to determine the school district's needs related to improving student achievement
- support the development of a division improvement plan on which individual schools built their improvement efforts
- build structures and processes to support central office monitoring of the implementation of the improvement plans

- link the school division to additional resources, such as those offered by the Virginia Department of Education, for assistance in the improvement process

The improvement specialists at the school and central office levels worked to build the school community's capacity to use data to develop and implement a school improvement plan. The specialists provided training in data analysis and strategic planning and modeled the trained behaviors.

School improvement plan. A key feature of the Model IV Intervention is the school improvement plan (SIP). The school improvement specialist assigned to each school supported the principal and faculty by including jump-start strategies in the school improvement plan to move the school forward quickly.[2] These strategies include the following:

- aligning the written curriculum with the taught curriculum
- aligning local and classroom assessments with the curriculum and continuously monitoring student progress
- analyzing student achievement data, including disaggregated data for groups such as minorities and special education students, to identify the most critical needs for which immediate, common achievement goals and strategies might be developed
- putting structures in place to monitor both delivery of the instructional program and student progress toward meeting the achievement goals
- providing additional learning time for students

To maintain the momentum gained through the jump-start strategies, each school improvement specialist supported his or her assigned school principal and faculty to address organizational and cultural changes needed to sustain improved student achievement. Through standardized surveys of school culture, as well as interaction with faculty, administration, and community, the school improvement specialist helped to determine the readiness of the faculty and the community to change practices, use data in planning for change, foster faculty collaboration, and distribute leadership functions. School improvement specialists influenced and shaped these strategies through participation on their assigned school's improvement committee.

Target Group

The Petersburg City School Division is an urban school division serving 5,400 students, from kindergarten through 12th grade (K-12). More than 85% of the students in the division qualify for free or reduced-price lunch. All seven elementary schools and both middle schools are designated as Title I schools (the high school is not).

Evaluation Plan

The main goals of this study are to document implementation of the Model IV Intervention in Petersburg City Schools and to determine what difference it made in student achievement. The core research questions are as follows:

[2] For more information about the jump-start strategies, see the short-term strategies in Corallo, C., & McDonald, D. (2003). *What works with low-performing schools.* Charleston, WV: AEL.

- Goal 1: To what extent was the Model IV Intervention plan implemented with fidelity?
- Goal 2: How successful was the Model IV Intervention in improving student achievement?

To address these two broad goals, the overall study seeks to answer four specific research questions.

1. What evidence is there that the intervention affected the quality of the school improvement plan?

School improvement plans cover a period of 3 years and are updated annually. The school improvement committee takes responsibility for writing the plan, conducting monthly reviews, and updating the plans annually. Researchers used a rubric, the Virginia School-Level Academic Review School Improvement Plan, Data Collection Summary Sheet—shown in Appendix A—to assess the presence of school improvement plan indicators relating to (1) content plan strategies, (2) implementation strategies, (3) results strategies, and (4) jump-start strategies.

2. What evidence is there that the intervention was implemented according to the Model IV Intervention plan?

Evaluators conducted interviews with school improvement specialists in spring 2004 and 2005. They also collected, read, and analyzed each school improvement specialist's 2-year compilation of weekly field notes. Evaluators also conducted spring 2004 and 2005 interviews with the central office specialist, school leaders, and central office leaders with whom school improvement specialists interacted during the study period. The interview data and specialist field note journals were used as a means of providing insight into the implementation of the intervention.

3. Do school culture and/or instructional quality change when the intervention is implemented?
    a. What were some major changes in teacher collaboration?
    b. What role did the school improvement specialists play in guiding school leadership?

The research question posed was addressed by the interviews with school improvement specialists and analysis of their weekly field note journals. In addition, faculty members' continuous improvement (as they perceive it) and the school's capacity for improvement were measured using the Continuous School Improvement Questionnaire (CSIQ) and Measure of School Capacity for Improvement (MSCI). The CSIQ and MSCI are surveys administered annually to all Petersburg school professional staff.

4. Has there been growth in achievement as measured by SOL tests?

Growth in student achievement is measured by school-level SOL data collected for the 10 Petersburg City schools and their matched counterparts in Richmond City. SOL tests are given annually in Grade 3 for English, math, history, and science; in Grades 5 and 8 for English, writing, math, history, and science; and in high school for English, writing, math, science, and history courses.

The evaluators used a quasi-experimental, matched comparison group design. For comparative purposes, student achievement data were collected in all 10 Petersburg City schools and in one-to-one matched comparison group schools in Richmond City, yielding a sample size of 10 matched pairs.[3] Matches were made based on several characteristics, including the size of the school, grade levels, poverty indicators, and available SOL test results.

In general, this evaluation report focuses on the following issues:

- patterns and trends in SOL results for Petersburg schools in comparison to Richmond City schools
- the role of the school improvement specialists
- the merits of the school improvement plans
- changes in perceptions of the schools as high-performing learning communities and in the schools' capacity for improvement

[3] This Model IV Intervention was not compared to Models I-III because schools and divisions were assigned to the models based on need; therefore, schools assigned to the other models are not comparable to the Petersburg schools. In addition, the intervention and research teams did not have access to data from schools using the other models.

Standards of Learning

The Standards of Learning (SOLs) for Virginia public schools define the Commonwealth's expectations for student learning and achievement in Grades K-12. SOL tests cover English, mathematics, science, and history/social science. The Virginia Department of Education Web site indicates that the content of the SOLs represents a consensus of what parents, classroom teachers, school administrators, academics, and business and community leaders believe schools should teach and students should master. In the four core areas (English, mathematics, science, and history/social science), the Commonwealth provides teachers with curriculum frameworks that detail the specific knowledge and skills students must demonstrate to meet standards of learning for these subjects.[4] For each school, SOL end-of-course test results are reported by the state in terms of the percentages of students passing (i.e., scoring at proficient or advanced) on each subject area test. These pass rates are available from the Virginia Department of Education Web site.[5]

Analysis of SOL Results

To evaluate the impact of the Model IV Intervention program, the 10 Petersburg City schools were paired with similar schools in the city of Richmond. The Richmond City schools are the comparison group for the Petersburg schools (i.e., because there is no intervention program in the Richmond City schools). CNAC developed the school-matching criteria used to select schools in Richmond City Schools for the comparison group.

SOL pass rates at the school level were downloaded from the Virginia Department of Education Web site. Again, the SOL results show the percentages of students passing the SOL tests by grade level and subject. Data used for this evaluation cover the 5 years prior to the school improvement intervention (1998, 1999, 2000, 2001, and 2002) and the first 2 years of the 3-year intervention period (2003 and 2004). Data for 2005 were not yet available at the time this report was written. Evaluators were thus able to compare SOL results for the baseline years (1998 to 2002) with the intervention years (2003 and 2004) in areas of student achievement targeted by the Petersburg City Schools' school improvement plans. The SOL pass rates are shown in Appendix F for (1) third-grade English, mathematics, history, and science; (2) fifth- and eighth-grade English, writing, mathematics, history, and science; and (3) high school English, writing, Algebra II, geometry, U.S. History I and II, World History I and II, world geography, earth science, biology, and chemistry. The evaluators' purpose for collecting these data was to compare trends in student performance across the years between each Petersburg school and its matched comparison school.

Table 1 shows the number of Petersburg and comparison schools that have improved their SOL subject pass rates by grade level and subject. Also shown are increases (or decreases) in pass rates, by grade level and subject, for Petersburg and comparison schools; increases (or decreases) in the state averages are also shown.

[4] www.pen.k12.va.us/VDOE/Superintendent/Sols/home.shtml

[5] www.pen.k12.va.us/VDOE/Assessment/2002SOLpassrates.html

Table 1. Increases (or Decreases) in the Percentages of Students Passing SOL Tests Before (1998-2002) and After (2003-2004) the Intervention: Petersburg Schools, Comparison Schools, and the State Average

	Petersburg Schools		Comparison Schools		State Average
Grades and Subjects Tested	Number Improved	Increase in Percentage of Students Passing	Number Improved	Increase in Percentage of Students Passing	Increase in Percentage of Students Passing
Third Grade					
English	3	-1	4	11	-1
Math	6	18	7	16	7
History	6	15	6	13	11
Science	7	18	5	13	8
Fifth Grade					
Writing	5	10	7	39	4
English	7	15	7	45	7
Math	7	27	6	30	7
History	6	30	7	46	14
Science	7	33	7	51	8
Eighth Grade					
Writing	1	4	2	27	1
English	1	-7	2	8	1
Math	2	13	2	25	7
History	2	19	2	27	5
Science	2	4	2	10	3
High School					
Writing	1	1	1	8	1
English	0	-6	0	-1	3
Algebra I	1	30	1	19	2
Geometry	1	5	1	39	6
Algebra II	1	25	1	31	9
U.S. History	1	19	1	8	15
World History I	0	-26	NA		-3
World History II	0	-2	1	4	4
Earth Science	1	10	1	10	1
Biology	0	-17	1	22	-3
Chemistry	1	25	1	15	8

In the Petersburg division, the pass rates for writing and English decline for some grade levels over the course of the intervention. In the grades where it does not decline, the increases in

the percentages of students passing were smaller than in the comparison schools or in the state overall. Math gains show a more positive picture. Although gains were not always as impressive in Petersburg as in the comparison schools, the gains made in math were above the state average. Petersburg High School saw a large increase in the number of students passing the SOLs for Algebra I and II, U.S. history, and chemistry. Pass rates in world history and biology declined in Petersburg while the comparison school made gains.

Appendix B provides a series of charts to help the reader visualize trends in the SOL scores and to assist in determining the effectiveness to date of the Model IV Intervention program for the first and second years of the intervention. The data used in these charts represent an average of the scores for the Petersburg schools, the Richmond comparison schools, and all schools in the state for each SOL test and year combination.

For example, see the figure, which displays the average fifth-grade science SOL pass rates for all 7 elementary schools in the Petersburg school system, for the 7 comparison schools in Richmond, and for the state overall. A least-squares linear trend (1998 to 2004) is plotted for the Richmond comparison elementary schools, the state elementary school average, and the Petersburg elementary schools. For the Petersburg schools, a least-squares linear trend is plotted for the pre-intervention period (1998 to 2002) and for intervention years (2003 and 2004).

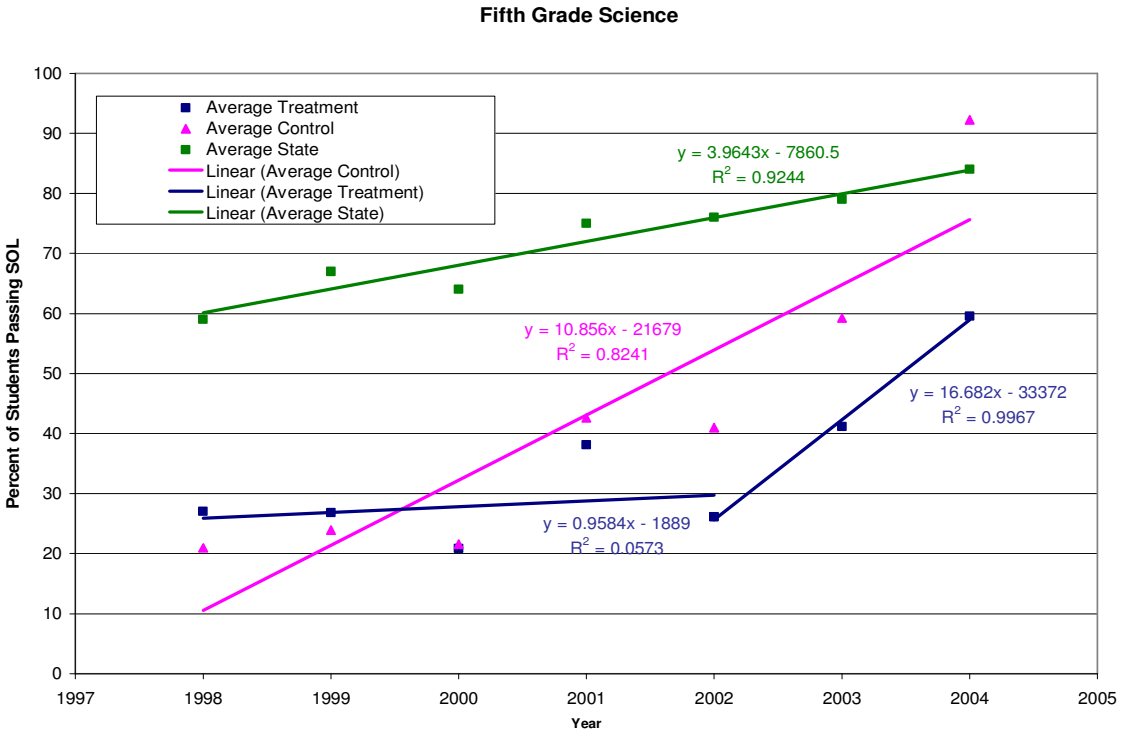


Figure. Fifth-Grade Science SOL Test Trends for Petersburg Schools, Richmond Comparison Schools, and the State Average.

The trend lines in the figure show that, for the Richmond comparison schools, there has been a steady improvement in student pass rate averages for the fifth-grade science SOL test.

The coefficient of determination (i.e., *R*-square statistic) for the Richmond schools' trend line is 0.82, suggesting a moderate to high degree of correlation between the actual scores and the linear trend line. However, because these trends are not being used to forecast scores but instead to visualize trends—pre-intervention and during intervention—the focus is on the relative slopes of the trends and the extent to which the Petersburg schools exhibit a marked improvement in the scores during the first 2 years of the Model IV Intervention period. Accordingly, for this SOL test (fifth-grade science), the Petersburg schools have demonstrated a marked improvement in the pass rates, and the trend in improvements is markedly higher during the intervention period than during the pre-intervention period (as demonstrated by the increased slope of the intervention period trend line for Petersburg schools). Although Petersburg's and Richmond's pass rates in fifth-grade science are rising more quickly than the state average, both school divisions' pass rates fall well below the state average.

Charts for each of the SOL subject tests averaged for grades (except high school) are presented in Appendix C. Findings may be summarized as follows:

- Third-grade SOL tests: The difference in achievement between Petersburg schools and Richmond comparison schools appears to be lessening, with Petersburg schools making larger gains and, hence, approximating the achievement of the Richmond comparison schools.
- Fifth-grade SOL tests: Results on all tests are trending up.
- Eighth-grade SOL tests: Writing, math, science, and history pass rates for Petersburg schools were generally lower than the Richmond comparison schools during the pre-intervention period; however, notable gains have been made, and the differences between Petersburg schools and the Richmond schools are trending up, with the gap becoming comparatively smaller for the history SOL than for the writing, math, or science SOLs. The Petersburg schools' English 2004 SOL pass rate has improved slightly over the English 2003 SOL pass rate, but it is still lower than the SOL pass-rate score achieved in the pre-intervention year (2002).
- High school SOL tests: Petersburg pass rates were generally higher than the Richmond comparison school pass rates during the pre-intervention period; however, Petersburg pass rates were generally lower than Richmond's by the second year of the intervention period, with the exception of writing, Algebra I, and U.S. history. Both high schools (Petersburg and Richmond) made gains in all subject areas during the first year of the intervention period. However, Petersburg achievement is not increasing at a greater rate than Richmond City. This trend is more evident by the second year of the intervention.

Summary of SOL Findings

Although analyses of SOL findings are tentative due to the unavailability of the 2005 scores, the trend appears to show that the Petersburg schools, having started with very low pass rates, are improving over time at a faster rate than comparison schools. Not all grades and subject areas are improving at the same rate, but notable improvements in pass rates are evident.

Role of the School Improvement Specialists

In examining the role of the school improvement specialists, the evaluators drew upon three main sources of data collected during for the 3-years of the intervention: (1) the school improvement specialists' monthly contractor reports (2003-2005) and invoices (2003-2004), (2) their weekly field notes (2003-2005), and (3) interviews with the school improvement specialists and the school leaders with whom they interacted. For the central office specialist, weekly field notes for the 2002-2003 year and interview data for 2003-2005 were examined.

Data Sources

The contractor reports and invoices provide a summary of school improvement specialists' activities and level of effort (number of days worked per month). The weekly journals provide insight into the intervention and its evolution. The interviews, conducted at the end of the second and third years of the initiative, present a more distilled view of the process and one with additional dimensions, because school personnel—particularly principals—in addition to school improvement specialists were interviewed. Combining these data makes it possible to view the same event from several perspectives and to develop a rich understanding of the situations faced by these key facilitators of the PA+SS initiative and their clients.

During the first 2 years of the intervention several themes emerged. Most are problems the school improvement specialists encountered in their work, and others are barriers that made implementation of PA+SS Model IV difficult. These themes include

- lack of trust between school improvement specialists and school personnel
- complex and confusing leadership dynamics at several levels
- micromanagement by school board officers
- high turnover of teachers and administrators
- concerns about the quality of teachers and administrators
- need for teacher professional development
- discipline and classroom management problems
- poor coordination of efforts between schools and central office
- too many new initiatives and not enough follow-through

While many of the themes were observed again in Year 3, there were some changes. Most notable were

- improvements in school improvement specialists' relationships with school leaders
- greater trust between school leaders and staff
- an increase in community support
- a decrease in micromanagement by the school board
- better coordination of efforts by the Central Office Support Team
- professional staff's perceptions of themselves as continuously improving throughout the implementation process

These themes are discussed later in this section. First, the data sources are described in some detail.

Monthly contractor report and invoice. In the monthly contractor report and invoice, the school improvement specialists recorded the number of days they worked each month and briefly described the nature of their contributions. The evaluators did not have complete records for all of the school improvement specialists, but available records allowed them to determine the level of effort typical of a school improvement specialist.

Interviews. In summer and fall of 2004 and 2005, the study team conducted telephone interviews with 7 school improvement specialists assigned to the schools,[6] the central office specialist, the principals at 8 of the Petersburg schools, another administrator at the 2 schools for which the principal was not available, 1 central office administrator, and 1 board member. These interviews used a standard set of questions aimed at eliciting information about the intervention and its perceived success. The protocols for the school improvement specialists and Petersburg school personnel were slightly different to account for the different perspectives of the two groups. The interviews covered the following topics:

- school improvement specialists' perceptions of the schools
- school staff's perceptions of the school improvement specialists
- the role of the school improvement specialists
- pressing needs of the schools
- whether and how the PA+SS Model IV Intervention addressed those needs
- school improvement specialists' accomplishments
- challenges and disappointments
- lessons learned
- effectiveness of the school improvement planning process
- AEL/Edvantia's performance
- perceptions of the impact of the program

School improvement specialist field notes. School improvement specialists were asked to keep field notes on their activities. They were to document not only what they did, but also to reflect on and record what they had learned and to record their perceptions of their effectiveness. The journals vary in approach and content. Several make compelling reading, with lengthy notes detailing the ups and downs of the school improvement specialist's experiences and the reception he or she received from administrators and teachers. One is a terse list of activities with limited commentary. The others fall between these two extremes. Because of the variation in style and the quantity of information, it is not possible to gain a comprehensive picture of the intervention across the entire division from this source. To preserve anonymity, individual school improvement specialists or their school assignments are not identified in this report.

School Improvement Specialist Activities, Overall

This section covers the school improvement specialists' activities. This picture of what the school improvement specialists did is constructed primarily from the monthly contractor

[6] Several school improvement specialists worked with more than one school.

reports and invoices and from interviews. The weekly field notes were used to supplement these sources as needed. The activities of the central office improvement specialist are described in a separate section.

The school improvement specialists typically began their first year assignments by attempting to meet with the school administrators. In particular, they wanted to get the principal on board to promote their efforts and to make that support visible to others with whom they needed to work. They tried to get standing invitations to relevant meetings of school personnel, including curriculum meetings. They met with the school instructional specialists and with division curriculum specialists as the need arose.[7]

During the first 2 years, school improvement specialists worked hard to get school administrators to focus on the school improvement plan. The specialists served on school improvement teams and committees. Depending on the principal, the school improvement specialists were invited to do "walkabouts" in the classrooms and to observe classroom activities. The purpose of these walkabouts, which were sometimes conducted with a formal protocol and other times conducted more informally, was to provide the principal with feedback on the instructional program. The school improvement specialists helped school staff analyze students' SOL performance. The school improvement specialists also helped their schools prepare for a visit by the Academic Review Team, which consisted of educators paid by the Virginia Department of Education to conduct an external review of the schools' instructional programs.[8]

The school improvement specialists began their third year by meeting with school leaders (principals) and instructional specialists to discuss the upcoming year and to share 2003 SOL results. In some cases, the results of these tests were used to identify students in need of an intervention or after-hours program. During these meetings, the school improvement specialists discussed the existing school improvement plan, curricula, teacher and student class assignments, and special education issues. Some school improvement specialists helped principals with the design of the schools' master schedules; others took on the preparation of the individual professional development plans.

All of the school improvement specialists took part in the weeklong teacher professional development workshop that took place just prior to the 2004-2005 school year. In the weeks that followed, the school improvement specialists met with school improvement teams and helped with the revision of the school improvement plan. They gathered and shared instructional materials with teachers and helped them with their lesson plans.

As the 2004-2005 school year progressed, school improvement specialists noted having more liberty to effect change in their schools. They observed teachers during classroom instruction, evaluated teacher performance, and shared recommendations for improvement. After these sessions, they reported their observations to school principals and teachers. They also

[7] The school instructional specialist is a full-time school staff person and should not be confused with the school improvement specialists, who were Model IV Intervention consultants hired on a 3-year contract that ended in June 2005.

[8] Recommendations (Essential Actions) from the Academic Review Team were expected to be incorporated into the school improvement plan.

began to prepare principals and instructional specialists for upcoming Central Office Support Team visits, reviewed observations, wrote reports, and shared the information with school staff.

As the new benchmark tests began to be administered, school improvement specialists reviewed and discussed the benchmark test results with principals and teachers. They proposed and discussed available intervention options, prepared and conducted workshops on test-taking strategies, and developed remediation materials. Some assisted teachers with performance assessments, discussed instructional strategies aimed at maximizing student engagement, or re-emphasized the importance of SIP implementation during faculty meetings.

Level of effort and contacts. Data from the monthly contractor reports and invoices indicate that the school improvement specialists worked between one and two days per week per school. They also spent time facilitating and/or participating in divisionwide workshops and school improvement specialist meetings, in addition to assisting the central office with grant proposals, planning, and implementation of divisionwide improvement plans. This level of involvement is in keeping with the PA+SS Model IV guidelines.

According to the data, the school improvement specialists worked closely with principals, other school leaders, school instructional specialists, and teachers. They were usually viewed as members of the school faculty. Individual students knew them by name and vice versa. Some of the school improvement specialists worked with central office personnel, such as the curriculum specialists. At times, they brought in outside resource personnel to consult with or present to the faculty. Individually and in group meetings, they consulted with the other school improvement specialists and compared notes.

Accomplishments. The interview data provided a picture of the school improvement specialists' perceptions of their greatest accomplishments. It is interesting to note that during both the 2004 and 2005 interviews, several of the school improvement specialists viewed gaining the trust, cooperation, and buy-in of the principal and school staff as their most important accomplishment. It was evident that without this first step, on which much effort was expended, little else could have been done.

More tangible accomplishments were also noted. During the 2004 interviews, several school improvement specialists noted that analyzing data was a major accomplishment, whereas others spoke of helping school personnel analyze data. Data analysis was cited in 2005 interviews as well. A few felt that they strengthened capacity within their school by holding workshops to teach the staff to analyze data. One school improvement specialist spoke of working with the school improvement team and following through with the principal to see that team suggestions were implemented. Another mentioned working with individual teachers to raise student achievement.

During the 2005 interviews, school improvement specialists characterized their accomplishments as seeing school staff take on a leadership role in the school improvement planning process (revising the plan, meeting as a team regularly, and independently monitoring progress); watching principals use school data, instructional plans, and programs; and helping

schools implement remediation programs in reading and math based on the yearly SOL assessments.

The school principals recognized in the 2005 interviews how greatly the school improvement specialists had positively affected the quality of teaching at their schools. Supporting this claim, they pointed out that instructional practices are now driven by test data, weekly planning sessions help identify and focus on the problem areas, and there is a renewed focus on strengthening student engagement in the classroom. School principals also saw an improvement in test scores and remediation programs, the level of parent involvement in school activities, and the level of comfort using data. Further, they talked about their own strengthened leadership abilities and attributed the confidence to the school improvement specialists' support.

The interviews with the school board members during the last year of the program (2005) revealed that it was the evaluation and realignment of the curriculum to the SOL test that was perceived as the greatest accomplishment of the PA+SS initiative. The increased frequency of student assessments, the efforts to familiarize students with the SOL test, and the implementation of new structures that facilitated the discussion of the test results helped to raise the school system's level of commitment to meet the SOL standards and improved the level of communication among school administrators and teachers.

School Improvement Specialist Activities, by Theme

In this section, data on the activities of the school improvement specialists are summarized by theme. School improvement specialist field notes and interviews indicate that they encountered many impediments that hindered them from accomplishing their goals. More generally, these impediments can be viewed as stumbling blocks in the path to meaningful school reform.

Building trust and cooperation. It was evident during the first 2 years of the initiative that the school improvement specialists often felt unwelcome, as though they were interlopers, at their assigned sites. The mistrust was manifested in the schools' failure to include the specialists in relevant meetings; in the school improvement specialists' inability to schedule meetings with principals and central office administrators; and in school personnel's failure to attend scheduled meetings with school improvement specialists.

The initial lack of trust and cooperation experienced by the school improvement specialists during Year 1 was exacerbated by their perception that the PA+SS initiative was not understood by the school board, nor had it been fully embraced by the former superintendent during the 2002-2003 school year. During the third-year interviews, one of the school board members recalled that it seemed as if the initiative had been forced upon the Petersburg schools. This, along with the lack of understanding of its activities and purpose, created a negative perception of the entire process. As a result, the division, as a whole, did not initially embrace the reform efforts and did not react well when faced with any criticism from newly-arrived school improvement specialists.

The school board hired a new superintendent during the second year of the initiative (2003-2004). This new superintendent understood and supported the PA+SS initiative. He worked with staff and put structures in place that made cooperation possible.

By the initiative's third year, school improvement specialists had developed relationships and provided useful assistance and advice within their schools. For example, principals and teachers from several schools actively and regularly sought school improvement specialists' assistance. Principals requested additional professional development workshops, assistance with test score analysis, and advice on intervention strategies. School improvement specialists were invited to attend faculty meetings, conduct classroom observations, and considered a part of the "school family." In some instances, school leaders told us they would like to maintain the school improvement specialist position even after the initiative's funding concludes. However, this trend was not uniform across all schools. At School H, a lack of cooperation from the new principal made the school improvement specialist's role practically ineffective, and the school improvement specialist requested to be transferred.

Leadership dynamics. During the first 2 years, many of the school improvement specialist field notes contained entries indicating a perception that there was a lack of leadership in the school system hierarchy. This problem was documented at all levels, not only in the elected school board and at the central office, but also in school-level leadership. By the third year, these types of entries were less common. This was most evident at the central office level, where the new leadership initiated several programs and initiatives that were highly praised by several school improvement specialists. Leadership dynamics at each of these levels is described, in turn, below.

School board. The Petersburg City School Board consists of five elected members who each serve 4-year terms. Its self-described role in the PA+SS program is to review initiatives that the superintendent and staff have developed and implemented and to stay informed about school progress.

In Years 1 and 2, the school board's direct involvement in everyday school administration was confirmed in school improvement specialists' weekly journal entries. In these journals, school improvement specialists recounted problems stemming from perceived micromanagement by the school board. School leadership spent a great deal of time responding to school board leaders' questions. In addition, there were ad hoc meetings of school staff called by school board leaders and ad hoc decisions made to change policies that directly affected school programs. Clearly this problem was beyond the school improvement specialists' scope of influence. It did, however, affect the school system, and sometimes directed focus away from the tasks of improving student achievement.

By Year 3, school improvement specialists' journals did not mention the school board at all; it was only during their interviews that the topic was broached. During these interviews one of the school improvement specialists stated that the school board was still "micromanaging the schools," but they did so to a much lesser degree than in the previous years. This change was attributed to the new superintendent supporting the intervention and working with the school board to relieve some of the pressure on school principals.

Central office. The Petersburg City Schools' central office consists of the superintendent and his staff, including an assistant superintendent for instruction. Reporting to this assistant superintendent are a director of instruction and a coordinator of testing and assessment. The central office employs a set of curriculum specialists, each of whom specializes in a content area, such as math, science, or English.

From time to time, the school improvement specialists interacted directly with the central office and observed the relationships between personnel at their own schools and at the central office. Several examples of their observations follow.

The PA+SS Model IV was initiated during the 2002-2003 year. The superintendent during this school year seemed less than proactive about fostering the PA+SS program.[9] Not until fairly late in the process did he support the SIP process. Indeed, he was quoted several times as declaring that the principals had other priorities, or "more important things" to do. Similar complaints were voiced by some school improvement specialists about other members of the central office hierarchy during this superintendent's administration. In particular, a lack of follow-through seemed pervasive.

During the 2002-2003 school year, the former superintendent brought in a colleague to conduct a series of workshops for division principals. Most of the school improvement specialists saw this program as competing for principals' time and attention, and they (plus some administrators) felt the workshops were too general and did not directly relate to the problems in the Petersburg school system. One school improvement specialist, however, noted the superintendent's high level of involvement at these meetings and deemed the sessions "excellent."

During this time period, hiring decisions for both the staff and individual school administrators were sometimes viewed as being politically correct and comfortable rather than focused on choosing the best person for the job. This observation ties into the cultural issues noted elsewhere in this report. The superintendent resigned at the close of the 2002-2003 school year. An interim superintendent was hired to start the 2003-2004 school year.

In November of the 2003-2004 school year, a new superintendent was hired to replace the interim. It was reported by school improvement specialists that this superintendent took several months to learn the school division dynamics and accepted the PA+SS program with caution. By the end of the 2003-2004 school year, it was reported that the superintendent had fully embraced the Model IV initiative and counted the central office and school improvement specialists as trusted advisors. The school improvement specialists' perceptions of the central office leadership changed dramatically during the 2004-2005 school year. During the interviews, three of the school improvement specialists praised new initiatives put in place. They singled out

[9] An interim superintendent, then new superintendent, was hired after the 2002-2003 school year. According to one school improvement specialist, the interim superintendent was supportive, as was the new superintendent, but it took some time to initiate and carry out the policies that were so desperately needed to improve instruction. Not until the interim superintendent arrived did the program receive full support. Support continued under the new and current superintendents.

AEL/Edvantia's implementation of the Central Office Support Team (COST) program as one of the more important initiatives that had a direct impact on performance of the entire PA+SS project. The superintendent also hired new central office staff members who helped with the COST program and other division initiatives. For example, the central office hired a new person to conduct data analyses for the division and for individual schools. These analyses of benchmark data allowed for linking the SOL scores to individual students and to teachers' classes as a whole, which created greater teacher accountability. The superintendent also met regularly with school principals to discuss the adequate yearly progress (AYP) projections.

Individual schools. At most schools, acceptance of the school improvement specialists and their role in helping to build school capacity was slow but ultimately successful, according to the specialists. The majority of the school improvement specialists believed they gained the trust and support of school principals, administrative staff, and faculty despite a tenuous beginning to their relationship. School improvement specialists did provide guidance and data interpretation to school improvement committees. Principals praised them for facilitating professional development, serving as mentors and coaches, and inspiring an improved quality of teaching that resulted in higher SOL scores.

According to the intervention model, the school improvement specialists were to work directly with the principals. In August 2002, the central office specialist conducted a workshop with all the principals to orient them to the Model IV Intervention and to explain the role of the school improvement specialists. In several cases, however, the school improvement specialists had trouble making and maintaining contact with their principals. Meetings went unscheduled or unattended, school improvement specialists were not given the support they needed in faculty meetings, and school improvement specialists' initiatives were not made a priority. "Stonewalling" describes the relationship between some of the principals and their school improvement specialists. Again, the insular nature of the school system culture seems relevant.

Several school improvement specialists complained that their principals would not participate in classroom "walkabouts." These appearances by the principals were seen by Model IV staff as important to emphasizing the principals' role as instructional leaders. The school improvement specialists believed that the presence of principals in the classrooms sent strong signals to teachers and students that learning is important. When principals failed to show up as scheduled, their absence also sent a message.

Further, several of the principals were deemed by the school improvement specialists to be inexperienced, out of their depth, or ineffectual. These perceptions seem related to the level of engagement between the school improvement specialist and the principal.

Finally, some school leaders did not appear invested in the school improvement planning process. For example, one of the school improvement specialists commented in Year 2 of the intervention that teachers did not have copies of the school improvement plan. It is not surprising that the teachers, lacking such a basic tool, did not always seem fully committed to the process.

An administrator at the central office described a range of responses to the school improvement specialists in the schools. In his view, "sometimes schools used school

improvement specialists as clerical help, and sometimes the school improvement specialist was given responsibility for all instruction and principals walked away. Either school improvement specialists influenced principals and instilled confidence or school improvement specialists ended up doing the principal's job themselves."

During the 2004-2005 school year, these problems were less frequent and isolated to specific schools. While the school improvement specialists still commented on the poor quality of some of the school leaders, they commented on observing large amounts of leadership growth, accountability, and "can do" feelings among the staff.

The implementation of the Model IV Intervention showed clear signs of improvement in the 2004-2005 school year. The school improvement specialists had begun attending faculty meetings and observed classroom instruction. They guided the school improvement teams' efforts and often were called upon by the principals to provide assistance with data analysis or to help with the development of appropriate strategies to accommodate school needs. Principals reported that, for the most part, the school improvement specialists had a positive impact on improving schools' performance. Principals felt that school improvement specialists were a valuable resource as class instruction observers, professional development facilitators, data analysis experts, and mentors/coaches. When asked about the accomplishments of the school improvement specialists, one of the principals said that the school's instructional practices have changed thanks to data use and new strategies developed by the school improvement specialist. Another singled out improved quality of teaching where more focus is placed on student engagement. One of the principals attributed higher SOL scores to school improvement specialist's contributions.

Coordinating efforts between schools and central office. Efforts to improve coordination between schools and the central office were typically unsuccessful in the beginning of the intervention. By the third year, however, the school improvement specialists reported that the central office had made large strides toward more meaningful interactions. The central office filled key vacancies in administrative positions, affording increased support to schools.

In the first 2 years of the program, some school improvement specialists described an atmosphere of mistrust between school personnel and the central office.[10] At times, school administrators and other school personnel were perceived as viewing central office personnel as antagonists, or at least threatening to their job security. At one point, the school instructional specialists felt that their jobs were under threat. Teachers indicated that the curriculum resources they needed never arrived, and communication, in general, between the central office and the schools was spotty.

At one school, it is documented that an academic review (AR) was scheduled for the beginning of January and the principal received only one week's notice. In addition, during that week the principal had to deal with a meeting at the central office, a school observation visit

[10] This atmosphere should not be regarded as unique to Petersburg Schools. School and central office personnel—and teachers and administrators in general—are often at odds, given their different demands and priorities. See, for example, Patrick Welsh, "Teachers and Administrators: Different Worlds," *St. Petersburg Times*, 27 Oct. 2002.

from a curriculum specialist, and a visit from COST. This clustering of incidents indicates a lack of coordination and timely communication from the central office.

There were many cases of last-minute demands placed on the principals by the central administration. Examples were given of principals being pulled out of important AR- and SIP-related meetings to respond to central office requests. In other cases, principals were given no-notice demands for substantial data compilations. In turn, some of these requests from the central office may have originated with the school board.

Central office communications were also lacking in substantive matters, such as curriculum changes and requirements. For example, the elementary schools had been cited for 2 years for not teaching language arts for at least 2 hours per day. It appears that the schools failed to respond either because principals were not held accountable or because no one in the central office decreed that the schools should allot the 2 hours per day.

Both the weekly journals and the 2005 interviews with school improvement specialists took an entirely different tone when describing central office during the third year of the program. They unanimously praised the new internal review structure put in place by the central office. They felt that the new structure increased and improved the level of interaction between schools and the central office. It forced principals to look at the data, as well as instructional plans and programs, which in turn opened up further dialogue and cooperation between schools and school improvement specialists. In the third year of the program, the central office also had filled a number of key positions, which boosted its ability to support schools. Content specialists were hired for each academic area; a director of elementary instruction, a curriculum specialist, a special education director, and a student attendance staff person also were hired. In addition, the central office had put in place a remediation program using weekly SOL assessments.

A plethora of programs. Judging from the school improvement specialists' journals, school administrators were reaching far and wide to find solutions to the Petersburg City Schools' low SOL scores. Rather than taking a divisionwide approach to the curriculum, different programs were instituted at different schools. New programs in math were begun at the elementary, middle, and high school levels. New reading programs were tried as well, and the entire school system was teamed with the Chesapeake school system to adapt programs that had succeeded there.

Several school improvement specialists reported that too much was being thrown at the instructional personnel, and the specialists called for a more focused approach to curriculum initiatives. In many cases, the number of new initiatives seems to have been overly ambitious. This is especially evident when combined with the requirement placed on the teachers to analyze individual students' academic weaknesses based on test results and to adapt their teaching to these individual requirements.

Turnover. Turnover continued to be the greatest challenge for Petersburg schools. The high turnover theme was present throughout the life of the program. During the first 2 years of this program, turnover took place at all levels, from the school board and superintendent down. School improvement specialists remarked on the difficulties presented by turnover. A period of

adjustment and learning always results when an experienced individual leaves and a new one takes his or her place. Such turbulence is particularly difficult in a school system working under an unprecedented level of scrutiny and subject to numerous initiatives aimed at improving student test scores. Not only did newcomers need to cope with the typical adjustments, they also had to get up to speed on the many new programs that were introduced while the Model IV Intervention was being implemented.

While these problems were still apparent during the third year of the program, they were mostly constrained to school-level employees. This made implementation of divisionwide initiatives much easier and more successful but still had a negative impact on the effectiveness of the classroom instruction. The impact of the high teacher turnover rate became most apparent during classroom observations, in which several school improvement specialists noted that many of the new teachers seemed overwhelmed and disorganized.

To help stay the course and address the problem of teacher quality and retention, the Virginia Department of Education added an extra $1 million to the Petersburg City Schools' 2005-2006 school year budget. This money was earmarked for signing bonuses to newly hired, credentialed teachers who are willing to sign a 3-year teaching contract with the division.

Back to basics. The school improvement specialist journals clearly show that there can be no quick fix. The school system has been plagued by such fundamental problems that the addition of one school improvement specialist to each school, 1 or 2 days a week, cannot provide a complete solution. A solution is especially problematic at the higher grade levels, where students lack basic skills normally acquired in the lower elementary grades. Thus, the problem snowballs as a student advances in grade.

One prerequisite for learning is discipline, which was clearly lacking in some schools, especially at the middle school level. Discipline problems preoccupied both school administrators and teachers. As a result, students who wanted to learn were neglected, which once again caused a snowball situation in which student achievement was the casualty.

Reading comprehension is a schoolwide issue. The division put a new reading curriculum in place in the 2003-2004 school year, and schools struggled to implement it. They did a better job during the 2004-2005 year, but more work needs to be done.

For example, the school improvement specialists reported that some teachers suffered from a lack of basic skills. Not only were they unskilled at classroom management, they also were seen to lack the skills and expertise to impart subject-matter knowledge to their students. Given this perceived low level of teaching competence, the numerous curriculum initiatives often exacerbated the problem. Teachers struggling to do their jobs were hard pressed to learn the ins and outs of new approaches to the curriculum or to disaggregate the test data to provide focused remediation.

In addition, the school improvement specialists continued to find recalcitrance in some teachers' attitudes about changing their teaching styles. A variety of instructional strategies need to be used, including pedagogy other than pencil/paper activities and lecturing. However, some

teachers were most comfortable with these methods and were resistant to changing or to building their tool kit.

Central Office Specialist

A defining characteristic of the Model IV Intervention is that a specialist works at the division's central office for approximately 20 hours per week. During the first 2 years of the intervention, 2 different individuals held that position. In the 2002-2003 school year, the first central office specialist met with passive but effective resistance. This perception is borne out by the first central office specialist's weekly journal entries. They chronicle a series of meetings in which key personnel did not show up, central office personnel's failure to consult with her, and other frustrations in trying to do her job.

In the second year, AEL/Edvantia's Model IV project manager took on the role of the central office school improvement specialist. It was hoped that, with his extensive experience and strong connection with the Virginia Department of Education, he would be able to make inroads. He was helped in this endeavor by the arrival of a new superintendent who was supportive of the intervention and appreciative of the central office specialist's contributions. A sense of the second central office specialist's activities was provided by an interview with him and by examination of the school-level improvement specialists' journals. It appears that he held principals' workshops monthly, which included leadership training and covered other topics. He also met monthly with the school improvement specialists as a group. All reported that they enjoyed these meetings and appreciated the chance to compare notes among themselves.

The central office specialist's activities in the second year may be difficult to reproduce in another division because he acted in the role of an assistant superintendent with an implicit level of authority over principals that another central office specialist might not be given by the superintendent. Because of the fluidity between the two roles held by the central office specialist, the evaluators were unable to demarcate activities attributable to one role or the other, so all activities are described. Because all Petersburg City schools are accredited with warning, the central office specialist, originally assigned to work with the central administration for up to 20 hours each week, expanded his role to include a 4-day-per-week commitment.

His overall goal and greatest accomplishment was "to set up a system to hold people accountable, school by school and individual by individual, up to and including the principal." In this regard, he required each principal to hold a monthly data conference with him. Also, each school got a visit every month from central office staff and AEL/Edvantia staff. In addition, the central office specialist improved communication between the central office and the schools by holding a series of meetings with all professional staff and featuring various specialists.

The central office specialist tackled the problem of teacher skills by putting into place initiatives to train elementary and middle school teachers to teach reading and math. Teachers were also trained in writing up teacher observations and conducting walkabouts. He established the central office support team, which met regularly with staff from each school, conducted school observations, and provided structured feedback.

While in many ways the central office specialist addressed the fundamental problems of establishing accountability, enhancing basic teacher skills, and improving communication between the central office and the schools, some gaps remained, and resources went underutilized. For example, the school improvement specialist for the high school and one of the middle schools resigned at the beginning of the 2004-2005 school year. In November 2004, the school improvement specialist from the other middle school resigned "for not being able to make a difference." These positions were neither replaced nor was another school improvement specialist reassigned permanently because the focus during the school year was on elementary school improvement.

Summary

Over the course of the 3-year PA+SS Model IV Intervention, Petersburg City schools have struggled to improve. They have made impressive gains, improving communication at all levels, structuring school language and math programs, aligning the curriculum with the SOL test, conducting benchmark tests and tracking student achievement, and trying to increase teacher quality and improve the staff retention rate. The school improvement specialists and central office specialist appear to have played an important role in these improvements.

Merits of the School Improvement Plans

Virginia's School-Level Academic Review rubric was used to assess whether the Petersburg schools' School Improvement Plans (SIPs) met quality criteria specified by the state. The rubric provided guidelines to school improvement committee members as they shaped their school's SIP content and implementation strategies and specified measurement of school achievement results. The three indicator strategies are (1) content plan strategies, with 13 indicators; (2) implementation strategies, with 7 indicators; and (3) results strategies, with 8 indicators. A copy of the rubric is located in Appendix A. In addition, the improvement committee was asked to add the following jump-start strategies to their school's SIP to support the goal of helping move the school forward more quickly:

- align the written curriculum with the taught curriculum
- align local and classroom assessments with the curriculum and continuously monitor student process
- analyze student achievement data, including disaggregated data for groups such as minorities and special education students, to identify the most critical needs for which immediate, common achievement goals and strategies may be developed
- put structures in place to monitor both delivery of the instructional program and student progress toward meeting the achievement goals
- provide additional learning time for students

School-Level Academic Review Rubric

The School-Level Academic Review rubric was used by the evaluators to assess the quality of the 10 SIPs. Each school had an active plan completed for the 3-year 2003-2006 planning cycle and updated for the 2004-2005 school year. In addition, recommendations for the four schools in which full academic reviews were conducted (because they were most critically low performing) were examined and compared for congruence with the content of those schools' SIPs. All SIPs are written to reflect inclusion of the indicators that are important for school improvement, but some of the SIPs are not documented as well as might be expected, making it difficult for the evaluators to determine whether deficiencies were present. Table 2 summarizes only the notable deficiencies, by school and indicator type, for the updated 2004-2005 school year SIPs presented in the 2003-2006 SIP planning cycle document.

Most of the schools' SIPs met the criteria set forth in the Academic Review rubric. School B was least successful, with 1 indicator deficiency in plan content, 5 indicator deficiencies in implementation, 5 results indicators with insufficient information, and 2 deficiencies in jump-start indicators. Despite having one of the school system's most poorly documented plans, School B's principal stated that the school had achieved accreditation in November 2004. As of March 17, 2005, the SIP of School B had not been revised because teacher input had not been received. The school improvement specialist reported in 2004 that staff members did not appear to value the SIP and/or test data. In general, her impression was that staff felt no urgency to get anything done and the principal did not solicit or want her assistance.

Examination by the evaluators of the SIPs from schools E, F, and G using the rubric also call attention to some caveats regarding compliance (e.g., it was difficult to determine whether School G had satisfied SIP 2.3: "Documenting implementation of strategies/action steps with the limited data available"). Schools H and J both require follow-up to determine whether SIP strategies and action plans for change are actually being implemented. Moreover, it appears that detailed documentation is the exception rather than the rule. Table 2 presents a synthesis of the SIP analysis, and lists the schools in which deficiencies were found in the school improvement plan. A detailed analysis of SIP quality indicators can be found in Appendix D.

Table 2. Petersburg School Improvement Plans: Indicator Deficiencies, 2004-2005 School Year

Indicators	School	Number of Deficiencies	Number of Indicators for Which Progress Could Not Be Determined
Plan content	B	1	0
Implementation	B	5	0
	E	0	3
	J	2	1
Results	B	0	5
	E	0	2
	H	0	1
	J	0	1
Jump start strategies	B	2	0
	I	2	0

Few schools had completed updated planning documents as of October 1, 2004. Given the rudimentary nature of the data, it was difficult to determine whether schools' SIPs were being implemented. Our interviews with school improvement specialists and school leaders provided us with anecdotal information indicating that each school had updated its SIP at the beginning of the 2004-2005 school year. The evaluators were told that after individual teachers and staff added input, buy-in within each school substantially increased. SIPs were described as "living documents" that were frequently monitored with monthly meetings and schoolwide updates, but documentation of this frequent monitoring is scant.

Summary

Only SIPs for the 2003-2006 SIP planning cycle were examined because each of the 10 schools was able to provide these documents. Only 3 out of 10 schools provided completed SIPs for the 2001-2002 school year, and only 4 schools provided updated SIPs for the 2004-2005 school year.

For the 2003-2006 SIP planning cycle that included the 2004-2005 SIP updates, all schools made adequate progress on the Content of Plan indicators (SIP 1). The difficulty arose when trying to determine whether schools successfully incorporated the rubric's indicators for SIP 2 Implementation and SIP 3 Results into their plans. Few schools had completed a SIP

indicator of progress as of October 1, 2004. Given the rudimentary nature of the data, it was difficult to determine whether schools' SIPs were being implemented.

For example, all SIPs were written to reflect inclusion of indicators important for school improvement, but some of the SIP indicators are not well documented in the plans. An examination of School B's SIP called attention to a range of caveats regarding whether the school fully met compliance criteria. The examinations of the SIPs from schools E, F, and G also called attention to some caveats regarding compliance. Schools H and J both required follow-up to determine whether SIP strategies and action plans for change are actually being implemented. Moreover, it appears that detailed documentation was the exception rather than the rule.

Interviews with school improvement specialists and school leaders provided anecdotal information that each school revised its SIP at the beginning of the 2004-2005 school year. School improvement specialists reported that individual teachers and staff added input and that buy-in within each school substantially increased. SIPs were described as "living documents" that were frequently monitored with monthly meetings and schoolwide updates. Not having the specific data (i.e., revised plans), however, prevents determination of what changes have been implemented throughout the school system.

Perceptions of Continuous Improvement and Capacity for Improvement

Dimensions related to continuous improvement and capacity for improvement are intricately woven into the fabric of school improvement. They are defined as important steps for moving schools toward becoming high-performance learning communities. To illuminate performance on dimensions related to continuous school improvement and capacity for improvement in Petersburg schools, AEL/Edvantia used two measurement tools: the Continuous School Improvement Questionnaire (CSIQ) and the Measure of School Capacity for Improvement (MSCI).[11] The CSIQ was administered to a total of 368 professional staff in 2002, 319 staff in 2003, 268 staff in 2004, and 300 staff in 2005 to determine their perceptions of the extent to which the school was characterized by features of a high performing and continuously improving school. The MSCI was used to survey school professionals' opinions about the capacity for school improvement. It was administered to 313 staff in 2003, 282 staff in 2004, and 294 staff in 2005.

Continuous School Improvement Questionnaire

The CSIQ helps the school staff gauge its performance on six dimensions related to continuous school improvement. The CSIQ is designed to focus educators on specific activities and characteristics that might be overlooked in a discussion or more general analysis. To the extent that the perceptions of the professional staff accurately reflect the situations, the results identify areas of strength and weakness as the school works toward continuous improvement.

The CSIQ solicits from professional staff members—principals, teachers, teachers' aides, media specialists, librarians, counselors, and others who have classroom or advisory contact with students and parents—their perceptions of how the school rates on several dimensions. In this sense, the CSIQ is a self-report inventory. That is, school performance on the CSIQ is a function of the combined perceptions of the professional staff. In general, the smallest unit of analysis is the school, and results apply most directly to specific schools.

The CSIQ includes 60 randomly ordered items that make up six scales of 10 items each. It takes approximately 30 minutes to complete the survey. The scales cover the following:

- **Learning Culture** reflects how well the culture of the school encourages learning by all students, staff, and administrators. It reflects the extent to which the school emphasizes learning rather than passive compliance, is a safe but exciting place to be, and encourages curiosity and exploration. It also indicates the extent to which teachers receive opportunities and encouragement to reflect on teaching practice, work with others, and experiment with new ways of teaching.
- **School, Family, and Community Connections** reflect the degree to which staffs perceive that parents and community members are involved in and feel part of the school. This includes such activities as informing parents and community, forming

[11] Information on the validity and reliability of the CSIQ, and the instrument's connection to constructs that are part of high-performing learning communities, may be found in Meehan, M.L., Cowley, K. S., Craig, J. R., Balow, N., and Childers, R. D. (2003). *AEL Continuous School Improvement Questionnaire: User Manual and Technical Report.* WV: AEL. Although a seventh dimension was added to the CSIQ during the time frame of this intervention, only the original 6 scales were used in this research so that change over time could be assessed.

meaningful partnerships, maintaining open communication, and honoring and respecting diverse points of view.

- **Shared Leadership** reflects the extent to which staff view leadership as being shared; that is, whether school administrators dominate decision making or there are mechanisms for involving teachers, students, and parents. It measures opportunities for leadership development and the extent of open, two-way communication.
- **Shared Goals for Learning** assesses the extent to which the school has clear, focused goals that are understood by all members of the school community. In addition, it reflects whether shared goals affect what is taught and how teachers teach, drive decisions about resources, focus on results for students, and are developed and "owned" by many rather than a few.
- **Purposeful Student Assessment** reflects the extent to which respondents view student assessment data as meaningful; use data to guide instructional decisions; and believe data are communicated to the greater school community, including teachers, parents, students, and the general community.
- **Effective Teaching** measures the extent to which teachers' practices align with research on effective teaching. It assesses whether teachers actively engage students in a variety of learning tasks, pose questions that encourage reflection and higher order thinking, expect students to think critically, and use teaching strategies designed to motivate students.

Each item is scored on a 6-point scale. Response options range from 1 (*Not present*) to 6 (*Present to a high degree*). The scores of the items within a scale are summed for a total scale raw score that ranges from a low of 10 to a high of 60.

The survey was administered at the end of each school year. AEL/Edvantia compiled results for each school and provided a brief summary and suggestions for improvement to the School Improvement Plan (SIP) committee. The SIP committee could then use this information as the basis for focusing on specific indicators of the SIP, as well as to view change in CSIQ dimensions over time. Table 3 shows a brief analysis of CSIQ indicator data for the Petersburg City Schools division. All six scale scores improved over the course of the intervention. Scores for shared leadership, shared goals for learning, and purposeful student assessment showed the greatest improvement, showing gains of more than a 12% between 2002 and 2005. Appendix E contains a school-by-school comparison of CSIQ data.

Table 3. Petersburg Schools' Percentage Gains on the Continuous School Improvement Questionnaire, 2002-2005

Scale	2002	2005	Gain	Percentage Difference
Learning culture	43.4	46.6	3.2	7.4%
School/family/community connections	39.6	43.1	3.5	8.9%
Sharing leadership	37.8	42.4	4.6	12.1%
Shared goals for learning	40.3	45.2	4.9	12.1%
Purposeful student assessment	40.5	45.4	5.0	12.3%
Effective teaching	44.4	46.6	2.2	5.0%

To determine if staff opinions on the six dimensions of the CSIQ changed over the course of the intervention, the evaluators conducted paired *t*-tests. The difference, or gain, scores were calculated on the 64 professional staff at Petersburg Schools who completed the survey in both 2002 and 2004 and on the 46 professional staff who completed the survey in both 2002 and 2005.[12] Tables 4 and 5 show the descriptive statistics for the matched pairs for the CSIQ and the results of paired *t*-tests for the CSIQ for 2002 and 2004 comparisons and 2002 and 2005 comparisons, respectively. Because all 64 staff who completed the survey in 2002 and 2004 did not answer every question on each scale, the sample size for the matched paired *t*-test performed on each of the six scales for the 2002 and 2004 data ranged from $n = 59$ to $n = 64$, and for 2002 and 2005 data ranged from $n = 42$ to $n = 46$. The findings for the 2002 and 2004 comparisons show that the paired *t*-test statistic is significant for five of the six CSIQ scales: learning culture ($p<.01$), school/family/community connections ($p<.01$), shared goals for learning ($p<.01$), purposeful student assessment ($p<.01$), and effective teaching ($p=.03$).

Findings for the 2002 and 2005 comparisons show that the paired *t*-test statistic remained significant for three of the six CSIQ scales: learning culture ($p=.02$), shared goals for learning ($p<.01$), and purposeful student assessment ($p<.01$). These findings suggest that professional school staff participating in all 3 years of the intervention feel somewhat less encouraged at the end of school year 2005 than they did at the end of school year 2004 with respect to school/family/community connections ($p=.10$), shared leadership ($p=.11$), and effective teaching ($p=.07$).

Table 4. Descriptive Statistics for Overall School Division Matched Pairs on the Continuous School Improvement Questionnaire, 2002-2005

CSIQ Scale	Mean			Standard Deviation		
	2002	2004	2005	2002	2004	2005
Learning culture	43.6	47.7	47.4	10.3	9.2	7.4
School/family/community connections	41.8	44.0	44.6	10.0	10.9	8.8
Sharing leadership	41.0	42.5	43.8	10.6	12.9	10.4
Shared goals for learning	42.3	48.4	48.2	8.9	9.6	8.1
Purposeful student assessment	42.1	48.7	48.9	10.4	9.0	7.7
Effective teaching	45.2	49.0	48.0	9.4	8.9	8.0

[12] The high turnover rate in the Petersburg division leaves few staff members who were present in both 2002 and 2004 and even fewer who were present in both 2002 and 2005.

Table 5. Results of Paired *t* Tests and Associated Effect Sizes for Continuous School Improvement Questionnaire, Petersburg City Schools, All Schools Combined

CSIQ Scale	Paired Differences 2002-2005					Paired Differences 2002-2004				
	Mean Gain	Std. Dev.	Test Statistic	*p**	Effect Size	Mean Gain	Std. Dev.	Test Statistic	*p**	Effect Size
Learning culture	3.8	10.7	2.4	0.02	0.36	3.2	9.0	2.7	<.01	0.35
School/family/community connections	2.8	11.5	1.7	0.10		3.7	9.8	3.0	<.01	0.37
Sharing leadership	2.7	10.6	1.7	0.11		2.3	12.5	1.4	0.17	
Shared goals for learning	5.9	10.9	3.6	<.01	0.54	6.2	8.0	6.0	<.01	0.78
Purposeful student assessment	6.7	10.7	4.1	<.01	0.63	7.1	9.5	5.9	<.01	0.75
Effective teaching	2.7	9.8	1.8	0.07		2.5	8.9	2.2	0.03	0.28

*Significant values indicate that the mean is significantly different than zero, and in this case that means a significant increase in scale score.

Measure of School Capacity for Improvement

The 64-item Measure of School Capacity for Improvement (MSCI) is designed to assess the degree to which schools possess the potential to become high-performing learning communities. The survey was developed in response to the paucity of definition, operationalization, and assessment of school capacity in the education research environment and evaluation literature. The survey is intended to assist school professional staff in ascertaining how well positioned schools are to undertake school reform efforts. It is also intended for administration and analysis over the course of school improvement undertakings. The instrument has been pilot tested, revised, and field tested to establish its validity and reliability.[13]

AEL/Edvantia evaluators administered the MSCI. It took up to 25 minutes for the professional school staff to complete the 64-item survey. For 31 items, professional staff were asked to rate the extent to which each item was true for their school using a 6-point Likert scale ranging from 1 (*Not at all true*) to 6 (*Completely true*). For the remaining items, professional staff were asked to rate how often each item was true for their school using a similar 6-point Likert scale ranging from 1 (*Never true*) to 6 (*Always true*). The MSCI subscale scores were created by calculating the mean of the items relating to each subscale; thus, subscale scores range from 1.0 to 6.0.

MSCI subscales are described below:

1. **Collective Professional Capacity** subscale measures the extent to which a faculty believes in its shared capability to positively influence student learning.

[13] Howley, C., & Riffle, J., 2002, *Pilot test of AEL's school capacity assessment,* Charleston, WV: AEL.

Riffle, M. J., Howley, C. W., & Ermolov, L. D. (2004, April). Measure of School Capacity for Improvement (MSCI): Early field test findings. Paper presented at the annual meeting of the American Educational Research Association, San Diego, CA.

2. **Peer Reviewed Practice** assesses the frequency with which teachers and supervisors observe a staff member's classes to provide meaningful feedback and improve teaching.
3. **Program Coherence** evaluates the extent to which the school's programs for student and staff learning are coordinated, focused on clear learning goals, and sustained over time.
4. **Technical Resources** measures the availability to faculty of planning time, working equipment, technology, instructional materials, facilities, and professional resource materials, such as journals.
5. **Anti-Discriminatory Teaching** subscale assesses the degree to which teachers instruct students in how to confront or resist prejudice and discrimination.
6. **Responsive Pedagogy** subscale is composed of items that concern faculty responsiveness to students' communities, the creation of equitable classroom environments, and pluralistic language and text use.
7. **Differentiated Instruction** evaluates the extent to which a faculty modifies its instructional strategies and grouping arrangements to meet the learning needs of students.
8. **Student Performance Expectations** measures how academically capable a staff believes its students are and how well it expects its students to perform.

The MSCI survey was administered in Petersburg schools at the end of each school year in 2003, 2004, and 2005.[14] As with the CSIQ, AEL/Edvantia compiled results for each school and provided a brief summary and suggestions for improvement to the School Improvement Plan (SIP) committee. The reports allowed the committee to see the change in capacity for school improvement over the implementation of the intervention and to identify specific areas of the SIP that needed further attention.

Table 6 shows the school division average for the 8 subscales of the MSCI survey for the 313 Petersburg professional staff who completed the MSCI survey instrument in 2003, the 282 staff who completed the instrument in 2004, and the 294 staff who completed the instrument in 2005. There were minimal decreases in the areas of peer reviewed practice, program coherence, anti-discriminatory teaching, and responsive pedagogy. The school division saw slight increases in the areas of collective teacher efficacy, technical resources, differentiated instruction, and student performance expectations. It is important to note that there are no baseline data for the MSCI. The comparisons here represent the change between the end of the first year of the Model IV intervention and the end of the third year of the Model IV intervention. A school-by-school analysis of MSCI data can be found in Appendix F.

[14] The MSCI was not administered in 2002 because it had not yet been developed.

Table 6. Petersburg Schools' Percentage Gains on the Measure of School Capacity for Improvement, 2003-2005

Division Average	2003	2005	Gain	Percent Difference
Collective teacher efficacy	4.6	4.7	0.0	0.6%
Peer reviewed practice	4.4	4.3	-0.1	-1.7%
Program coherence	4.5	4.3	-0.2	-4.9%
Technical resources	4.0	4.1	0.0	1.2%
Anti-discriminatory teaching	5.1	5.0	-0.1	-2.0%
Responsive pedagogy	4.8	4.7	-0.1	-2.3%
Differentiated instruction	4.6	4.7	0.1	1.8%
Student performance expectations	4.7	4.7	0.0	0.2%

Matched pair *t* tests were conducted to determine if individual teachers present throughout the entire time frame of the intervention have a change in perception on the 8 dimensions of capacity for school improvement. A total of 94 professional staff completed the MSCI survey in both 2003 and 2004, and 56 professional staff completed the survey in both 2003 and 2005. Summary statistics presented in Table 7 were compiled on the 8 scales on the MSCI for the staff members included in the matched, paired *t* tests calculated for years 2003 compared with 2004 and 2003 compared with 2005. Table 8 shows that findings are significant for matched paired *t* tests between 2003 and 2004 on three of the eight scales: program coherence ($p<.01$), anti-discriminatory teaching ($p=.02$), and responsive pedagogy ($p<.01$). In each of these cases, the staff's view of capacity for improvement decreases in 2004.

Table 8 also shows that findings are significant for matched paired *t* tests between 2003 and 2005 on 4 of the 8 scales: peer-reviewed practice ($p=.05$), program coherence ($p<.01$), anti-discriminatory teaching ($p<.01$), and responsive pedagogy ($p<.01$). Overall, from Year 1 (2003) to Year 3 of the school improvement study (2005), the statistical relationship shown for these 4 scales indicates a significant decrease in school capacity for improvement, perhaps as school staffs became more familiar with the requirements for successful school improvement efforts and noted the absence of required elements.

Table 7. Descriptive Statistics for Overall School Division Matched Pairs on the Measure of School Capacity for Improvement, 2003-2005

MSCI Response Categories	Mean			Standard Deviation		
	2003	2004	2005	2003	2004	2005
Collective teacher efficacy	4.6	4.5	4.5	0.8	0.9	0.8
Peer reviewed practice	4.4	4.1	4.1	1.0	1.0	1.0
Program coherence	4.6	4.1	4.2	0.7	1.0	0.8
Technical resources	4.0	3.7	4.1	1.0	1.1	0.9
Anti-discriminatory teaching	5.1	4.9	4.8	0.6	0.9	0.7
Responsive pedagogy	4.8	4.6	4.6	0.7	0.8	0.7
Differentiated instruction	4.5	4.5	4.5	1.0	0.9	0.9
Student performance expectations	4.8	4.6	4.6	0.9	0.9	0.9

Table 8. Results of Paired *t* Tests and Associated Effect Sizes for the Measure of School Capacity for Improvement, Petersburg City Schools, All Schools Combined

MSCI Scales	Paired Differences 2003-2005					Paired Differences 2003-2004				
	Mean Gain	Std. Dev.	Test Statistic	*p**	Effect Size	Mean Gain	Std. Dev.	Test Statistic	*p**	Effect Size
Collective teacher efficacy	0.0	0.8	0.5	0.54		0.0	0.8	0.5	0.59	
Peer reviewed Practice	-0.3	1.0	-2.0	0.05	0.3	-0.1	0.9	1.0	0.3	
Program coherence	-0.3	0.8	3.1	<.01	0.4	-0.4	0.7	5.0	<.01	0.5
Technical resources	0.1	0.9	0.6	0.58		-0.2	0.9	1.8	0.07	0.2
Anti-discriminatory teaching	-0.3	0.8	-2.9	<.01	0.4	-0.2	0.8	2.3	0.02	0.2
Responsive pedagogy	-0.3	0.8	-2.6	<.01	0.4	-0.2	0.7	2.8	<.01	0.3
Differentiated instruction	0.0	0.9	0.2	0.9		0.0	0.8	0.0	0.96	
Student performance expectations	-0.2	0.9	-1.6	0.12		0.0	0.8	1.0	0.34	

*Significant values indicate that the mean is significantly different than zero, and in this case that means a significant decline in subscale score.

Summary

The CSIQ data indicate that staff in the Petersburg school division felt that the schools were becoming more similar to high-performing schools over the course of the intervention despite the staff members reporting an increasing perception that the schools lacked critical elements necessary for improvement efforts to be successful. The CSIQ and MSCI instruments provided the SIP committees with valuable (if also somewhat contradictory) information, indicating areas where improvements may have been most effective and also areas in which the schools most needed to improve. Faculty perceptions seem to indicate that, overall, schools were beginning to adopt the characteristics of high-performing schools even if specific practices and resource availability were hindering improvement efforts.

The reports AEL/Edvantia provided to the SIP committee also provided a real-life example of how data analysis is not always used to guide decision making. Neither the surveys nor the reports provided by AEL/Edvantia were mentioned during staff interviews or in school improvement specialist field notes. This raises some questions as to the degree to which school improvement specialists and principals used these valuable resources.

Conclusions and Recommendations

Conclusions relating to the major components of the evaluation are presented below. Following the conclusions related to student achievement, the role of the school improvement specialist, merits of the school improvement plans, and effects of the intervention on perceptions of the schools as continuously improving and possessing the capacity for improvement, evaluators make recommendations based on findings of the study.

Conclusions

Standards of Learning. Notable changes in the Standards of Learning (SOL) percentage pass rates for students are occurring throughout Petersburg schools. In general, there are positive gains in the SOL percentage pass rates for fifth-grade students in each subject during Year 1 (2003) and Year 2 (2004) of the Model IV Intervention period. Fifth-grade math SOL pass rates are trending upward. During an interview in 2004, the School C school improvement specialist said that her biggest disappointment in the Year 1 intervention period was the "the lack of progress School C students made on the SOLs." She appears, however, to be correct in her observation that School C teachers are "buying into the Model IV Intervention."

At the eighth-grade level during Year 1, Petersburg students show gains in the pass rates for math SOLs, although these gains appear to be smaller than those for the Richmond comparison schools. In Year 2, the eighth-grade average math SOL percentage pass rate was comparable to Year 1—holding steady. Part of the issue regarding lower percentage changes for Petersburg students passing the SOL tests may relate to the frequency of administrative changes in School H, where the principal changed twice during the 2003–2004 school year. Although the data are not yet available for the third year of implementation, School H and School I did not receive full services of the school improvement specialists during that year. In School H, the school improvement specialist was not welcomed by the principal and consequently vacated her role, and in School I a school improvement specialist position vacancy occurred. Not only were the administration and consulting services in flux during the second and third years of the intervention, but classroom management was an issue. To address this issue, a school improvement specialist reported that during the first 45 days of the 2004–2005 school year (Year 3 of intervention period), teachers became more engaged with the overall management of school classrooms and used the Harry Wong Classroom Management Style.[15] With stable school leadership and appropriate classroom management, the percentages of students in Schools H and I who passed the SOLs appears to be poised to increase in 2005.

Notable positive changes occurred in the percentages of high school students passing the SOLs from 1998 to 2001, that is, prior to the Model IV Intervention. These increasing percentages for student pass rates continued to occur for all subject areas during Year 1 and most subject areas during Year 2, with the exception of biology, which

[15] www.glavac.com/harrywong.htm

decreased steadily during Years 1 and 2 of the Model IV Intervention period. During Year 2, former upward trends in subject areas shifted downward in writing, English, Algebra II, World History I and II, earth science, and chemistry. In 2004, the school improvement specialist reported that the benchmark testing program was not implemented in the high school during Years 1 or 2. One may speculate about whether the school improvement specialist's concern in Year 1 about the high level of mistrust between the school and the central office may have thwarted benchmark testing. The school improvement specialist was dismayed that the high level of mistrust originally experienced might stand in the way of school improvement.

To provide an alternative method of examining the achievement data, a least-squares linear trend (for the entire period from 1998 to 2003) was plotted for the Richmond comparison schools and the state averages. For the Petersburg schools, a least-squares linear trend was plotted for the pre-intervention period (1998 to 2002) and for the intervention period (2002 to 2003). This trend shows that Petersburg schools are making gains in student achievement, often approximating or even exceeding the rate of gain of the matched Richmond schools and state averages.

With the high stakes involved in standardized testing as required by the No Child Left Behind Act of 2001, all schools might have a tendency to improve regardless of strategic interventions. In fact, both the Petersburg schools and their matched comparison group schools have been making gains. Given that, at this time, only two post-intervention years could be compared to the pre-intervention achievement data, more time is needed to see if the Model IV Intervention will have the intended long-term effects on student achievement.

Role of the school improvement specialists. The school improvement specialists are the facilitators of the PA+SS Model IV Intervention. In the first 2 years of the intervention, these same eight school improvement specialists worked closely with school leaders, instructional personnel, and the central office to foster adoption of a meaningful school improvement plan and the use of data to guide instructional decisions. The difficulties they encountered included cultural obstacles, training and education deficiencies, and management challenges. The school improvement specialists alone cannot be expected to cause, or take credit for, progress in school performance: a team effort is required for school improvement efforts to succeed. Even then, sustaining the progress could be problematic.

As some school-based school improvement specialists commented, this intervention may take a substantial amount of time to become sustainable. For example, one school improvement specialist projected that reaching the level of sustainability may take 5 to 7 years. The school improvement specialists discovered that, in addition to time to perform their substantive work, another year or so on the front end was required to gain the trust of the people with whom they were working. By spring 2005, the school improvement specialists had, for the most part, been integrated into the schools' activities. School leaders praised the school improvement specialists for their hard work and contributions. Some were quick to point out, however, that the school improvement specialist was only *part* of a team that also included school leaders and faculty members.

It is clear that serving as a school improvement specialist can be frustrating and difficult. Much depends on the personality match between the school improvement specialist and school leadership. For example, a school improvement specialist who worked at two different schools was described very differently by the two principals: "Did not try to take over the role of principal" and "Can be overbearing." Thus, the relationship between the school improvement specialist and the principal is vital to success. School improvement specialists should be chosen for their experience and ability to perform effectively in schools identified for school improvement, as well as for their prior successes as educators.

Several of the school improvement specialists commented on the problem of sustainability. They were concerned that their accomplishments would not outlive their tenure at the schools. Their fears seem to be well founded. Unless substantive improvements are made in teacher quality, teacher competence is likely to remain problematic. High teacher turnover rates, combined with the school system's policy of allowing teachers to be on staff for up to 3 years before acquiring state certification, have exacerbated this problem.[16] Anecdotal evidence indicates that teachers who use that time to gain accreditation move on to higher-paying schools once they become certified. Paradoxically, so do those who do not become certified. In either case, because the turnover is high and certification can be waived for up to 3 years, the potential for Petersburg schools to suffer from lower levels of teacher competence remains.

Given the pressures on the schools to improve, the school improvement specialists were torn between "giving the staff a fish or teaching them how to fish." For example, this tension was explicitly stated in one school improvement specialist's journal. Were the school improvement specialists better employed in teaching the staff how to disaggregate test data or by doing it themselves? Depending on the time pressure, the school improvement specialists took both approaches.

According to school and division leaders, the presence and activities of the school improvement specialist in the central office are central to this intervention. This part of the Model IV Intervention also provides the most hope in districts with systemwide deficiencies. If the school improvement specialist program, with the support of the superintendent, is able to create a more positive culture in which principals are held accountable for school improvement, progress is likely to follow. School administrators and, consequently, teachers will be more likely to accept and welcome the help offered by the school-level school improvement specialists when the central office shows strong support for the principals. With assistance from the school improvement specialists, school staffs can make their school improvement plans the mechanism for focused attention that leads to improved schools and better-educated students.

A further issue not directly addressed here is the relationship between parents and schools. In a reversal of good practice, one of the Petersburg principals removed parent

[16] Five of the 10 Petersburg schools are designated by the Virginia Department of Education as "hard-to-staff" schools.

representatives from the school improvement team. Involving parents is a key ingredient to school improvement.[17]

Merits of the school improvement plans. All schools complied with rubric indicators in SIP 1 (Content of Plan). Difficulties arose when trying to determine whether schools successfully incorporated the rubric's indicators for SIP 2 (Implementation) and SIP 3 (Results) into their plans. Few schools had completed the SIP indicator of progress as of October 1, 2004. Given the rudimentary nature of the data, it was difficult to determine whether schools' improvement plans are being implemented. Moreover, it appears as though detailed documentation about implementation is the exception rather than the rule.

The rubric provides guidelines to school improvement committee members for the purpose of shaping the school's SIP content and implementation strategies and specifying measurement of school achievement results. School principals, school improvement specialists, and teachers are typically members on the school improvement committee. The school improvement specialists believe that the SIP presents a good indicator of where the school is headed in improving student achievement; however, SIPs do not necessarily address the school's progress toward the stated goals. School improvement specialists repeatedly emphasized that, although there is a great deal of interest and focus by the school principals and the central office on completing the SIPs, very little use is made of the completed documents. Two of the school improvement specialists noted that, although the SIP is a worthwhile endeavor, it is not a tool by which to measure school success. Insufficient data exist regarding the role of the SIP in relation to student achievement on the SOL tests; this is largely due to the lack of specificity in the SIP document. When applying the rubric to the schools' SIPs, it becomes apparent that, while principals understand the level of content to include in their SIP planning, they do not grasp that the SIPs should include evidence of results appropriate for an academic review (i.e., records documentation and data/measures [benchmark data] relevant to areas of needed improvement).

The school improvement specialists from Schools C, D, and H mentioned that SIPs were not used to determine the schools' progress toward full implementation of the rubric indicators. In an interview, one school improvement specialist said, "Instead of using [SIPs], [principals] put them on shelves where [SIPs] were traditionally not used."

The school improvement specialists referred to the short time frame during which the school improvement plan goals were to be implemented. Because school improvement specialists assisted heavily in the development of the SIPs, they were able to speak to the difficulty schools had in implementing all of the SIP goals while trying to deal with the day-to-day issues of school operations. Also of concern is the time taken by

[17] See the following for reviews of the importance of parent involvement:

Epstein, J. (1992). *School and family partnerships*. Baltimore: Center on Families, Communities, Schools and Children's Learning.

Levine, D. U., & Lezotte, L. W. (1990). *Unusually effective schools: A review and analysis of research and practice*. Madison, WI: National Center for Effective Schools Research and Development.

the schools to develop and implement the SIPs. Although the SIPs were to be completed in the first year of the Model IV Intervention, it was difficult for many of the schools to meet this deadline due to the high turnover rate of professional staff and their inexperience with results-based planning. In general, the school improvement specialists believe that the SIPs improved in the second year of the initiative. The Year 2 SIPs were more detailed, and one could assume that as the schools become more comfortable with the structure and utility of the SIPs, the relationship between the SIP and improving SOL scores will be established. The central office specialist points out that "the challenge is to simply make the SIP more meaningful."

Learning communities and capacity for improvement. Dimensions (subscales) of a high-performing learning community as measured by the CSIQ and capacity for improvement as measured by the MSCI are woven into the fabric of school improvement. In the second year of the intervention (2004), perceptions of the school as a high-performing learning community showed significant increases over the baseline year (2002) on 5 of 6 CSIQ dimensions. In the third year of the intervention (2005), only 3 of 6 CSIQ dimensions showed significant increases over the baseline year. The CSIQ shows that perceived changes in the school as a high-performing learning community are readily apparent when 2002 (baseline) and 2004 (Year 2) data are compared, although when 2002 and 2005 (Year 3) data are compared, professional staffs indicate less satisfaction in the areas of effective teaching and school/family/community connections than in Year 2.

In the second and third years of the intervention, dimensions on the MSCI that are associated with changes in capacity for improvement show that professional staffs were less satisfied in 2004 and 2005 than they were in the first year of the intervention on some constructs related to effective teaching (e.g., anti-discriminatory teaching and responsive pedagogy) and program coherence. These findings may be explained as an implementation dip. As reform efforts began to be implemented in earnest, staff may have become more dissatisfied with certain conditions in their schools as they noticed the areas in need of improvement.

Recommendations

Institutionalize the central office specialist position. The Model IV Intervention innovation of assigning a senior school improvement specialist to the central office appears to have had some positive effects in the Petersburg City Schools division, based on interview, survey, and achievement data. Therefore, the division should work to ensure that the central office specialist's responsibilities, in particular those related to the central office support team (COST) program, are institutionalized, either by creating a permanent position or by reassigning these responsibilities to another central office staff member who has the necessary qualifications. Institutionalizing the senior central office specialist and ensuring the continuance of the COST program could be important steps toward sustaining school improvement.

Fully utilize school instructional specialists. The majority of the school improvement specialists provided valuable support and data analysis to the administration, the school improvement planning committee, and the faculty and staff

during the time of the intervention. During this time they worked closely with the school instructional specialists. The school instructional specialist could play a key role in sustaining the level of support that the school improvement specialists provided. Ideally, this individual would provide continuity in data expertise and be available both to provide instruction in data analysis and to perform data analysis as needed. Institutionalizing these responsibilities, after ensuring that the instructional specialists are well grounded in data analysis, would go a long way toward addressing the problem of sustainability in individual schools.

Fully utilize school improvement plans (SIPs). An effort should be made to reinforce and encourage the use of the SIP as a tool for the school's administration to gauge school progress toward defined goals. The SIP should be "a living document" (a theme echoed throughout the school improvement specialist interviews), and one should be created and monitored for the division and for each school. This would help the central office be more involved in supporting principals, building school capacity, and maintaining collaborative relationships with school leaders.

Set target dates for achieving SIP objectives. School leaders should be required to focus on specific strategies of the SIP during a set time frame. Instead of requiring schools to implement the entire SIP all at once, the SIP might better be administered in an easily managed order, predetermined either at the central office level or at the individual school level and supported by the central office.

Continue to monitor schools' progress. Schools' increasingly favorable perception of themselves as high-performing learning communities might well be a harbinger of the capacity for improvement, but it will be important to continue to measure staff perceptions beyond the 3-year intervention period to determine whether the schools continue to develop cultures of continuous improvement and, eventually, capacity for improvement. Continuing to monitor these two aspects of improvement through the CSIQ and MSCI could be another step toward monitoring the reforms' sustainability.

Act to stabilize the teaching and leadership staff. The Petersburg school division's most pressing need is that of stabilizing the teaching and leadership staffs. Because there is an approximate 50% annual turnover rate in Petersburg schools, curriculum continuity, school capacity for improvement, and teacher and leadership quality are always in flux. In preparation for the 2005-2006 school year, the Virginia Department of Education provided an extra $1 million for signing bonuses as a short-term incentive to hiring qualified teachers, with the stipulation that these newly hired teachers agree to a 3-year commitment to teach in the Petersburg school division; however, there are still no plans for how the Petersburg school division will retain these qualified teachers beyond the 3-year period without increasing the teacher pay scale in the long run.

Appendix A

School-Level Academic Review School Improvement Plan, Data Collection Summary Sheet

SCHOOL-LEVEL ACADEMIC REVIEW

School Code: __ __ __ -- __ __ __ __

Form 4-SIP: SCHOOL IMPROVEMENT PLAN, Data Collection Summary Sheet

Date of Visit:_____

Content Area(s) Reviewed: ___ English; ___ Mathematics; ___ History; ___ Science

Indicators *Do NOT reword the indicator in the report. Include a clarifying comment if the indicator, as written, does not "fit".*	Sources of Evidence				Significant Findings *If indicator is cited as AOS or AI, or both, the team's Significant Findings must be provided below.*	AOS	AI
	Self-Study	Doc	Int	Obs			
SIP 1 ***Content of Plan***							
SIP 1.1 Basing the three-year school improvement plan on the results of previous academic reviews, as required by the *Standards of Accreditation*							
SIP 1.2 Developing the three-year school improvement plan with the assistance of parents and teachers, as required by the *Standards of Accreditation*							
SIP 1.3 Using baseline data/measures relevant to areas for improvement to identify goals for school improvement planning							
SIP 1.4 Establishing clear goals that relate to student achievement							
SIP 1.5 Establishing yearly, measurable objectives or benchmarks that are linked to goals							

SCHOOL-LEVEL ACADEMIC REVIEW

Form 4-SIP: SCHOOL IMPROVEMENT PLAN, Data Collection Summary Sheet

School Code: __ __ __ -- __ __ __ __

Date of Visit:_____

Indicators *Do NOT reword the indicator in the report. Include a clarifying comment if the indicator, as written, does not "fit".*	**Sources of Evidence**				**Significant Findings** *If indicator is cited as AOS or AI, or both, the team's Significant Findings must be provided below.*	**AOS**	**AI**
	Self-Study	**Doc**	**Int**	**Obs**			
SIP 1.6 Describing the strategies to be implemented and the specific action steps to be taken to meet each objective							
SIP 1.7 Including data collection activities at regular, logical (not random) intervals throughout plan, as part of strategies/action steps							
SIP 1.8 Including a system of monitoring student progress at regular, logical (not random) intervals							
SIP 1.9 Selecting achievement indicators that are appropriate to goals and objectives							
SIP 1.10 Identifying sources of evidence that are appropriate to strategies/action steps							

SCHOOL-LEVEL ACADEMIC REVIEW

Form 4-SIP: SCHOOL IMPROVEMENT PLAN, Data Collection Summary Sheet

School Code: __ __ __ -- __ __ __ __

Date of Visit:_____

Indicators *Do NOT reword the indicator in the report. Include a clarifying comment if the indicator, as written, does not "fit".*	**Sources of Evidence**				**Significant Findings** *If indicator is cited as AOS or AI, or both, the team's Significant Findings must be provided below.*	**AOS**	**AI**
	Self-Study	**Doc**	**Int**	**Obs**			
SIP 1.11 Identifying person(s) responsible for implementing strategies/action steps and collecting data/evidence							
SIP 1.12 Establishing timelines over a three-year period and linking shorter timeframes to specific action steps/strategies							
SIP 1.13 Including all nine components required by Section 8VAC20-131-310.G of the Standards of Accreditation. (Refer to TA Document in AR User's Handbook or SOA for list of components.)							
SIP 2 ***Implementation*** **SIP 2.1** Focusing implementation on improved student achievement							
SIP 2.2 Implementing strategies and action steps in the manner described in plan							

SCHOOL-LEVEL ACADEMIC REVIEW

Form 4-SIP: SCHOOL IMPROVEMENT PLAN, Data Collection Summary Sheet

School Code: __ __ __ -- __ __ __ __

Date of Visit:_____

Indicators *Do NOT reword the indicator in the report. Include a clarifying comment if the indicator, as written, does not "fit".*	Sources of Evidence				Significant Findings *If indicator is cited as AOS or AI, or both, the team's Significant Findings must be provided below.*	AOS	AI
	Self-Study	Doc	Int	Obs			
SIP 2.3 Documenting implementation of strategies/action steps							
SIP 2.4 Collecting and compiling data/evidence of the degree to which strategies and action steps are implemented as described in the plan							
SIP 2.5 Monitoring the efforts of staff in carrying out their responsibilities							
SIP 2.6 Meeting established timelines for completing strategies/action steps and collecting data/evidence							
SIP 2.7 Establishing procedures for macro-to-micro analysis of data							

SCHOOL-LEVEL ACADEMIC REVIEW

Form 4-SIP: SCHOOL IMPROVEMENT PLAN, Data Collection Summary Sheet

School Code: __ __ __ -- __ __ __ __

Date of Visit:_____

Indicators *Do NOT reword the indicator in the report. Include a clarifying comment if the indicator, as written, does not "fit".*	**Sources of Evidence**				**Significant Findings** *If indicator is cited as AOS or AI, or both, the team's Significant Findings must be provided below.*	**AOS**	**AI**
	Self-Study	**Doc**	**Int**	**Obs**			
SIP 3 ***Results*** **SIP 3.1** Establishing a system for monitoring and adjusting the school's improvement plan							
SIP 3.2 Analyzing data/evidence to determine the degree to which strategies/actions steps are implemented as intended							
SIP 3.3 Systematically monitoring student achievement at regular intervals throughout the year to determine effectiveness of improvement initiatives							
SIP 3.4 Using data to determine the impact of improvement initiatives on student learning							
SIP 3.5 Modifying goals and/or objectives based upon the analyses of date/evidence							

Indicators *Do NOT reword the indicator in the report. Include a clarifying comment if the indicator, as written, does not "fit".*	Sources of Evidence				Significant Findings *If indicator is cited as AOS or AI, or both, the team's Significant Findings must be provided below.*	AOS	AI
	Self-Study	Doc	Int	Obs			
SIP 3.6 Modifying less successful strategies and adding new strategies, as needed, to promote continued improvement							
SIP 3.7 Reaching established student achievement benchmarks and/or objectives							
SIP 3.8 Communicating the status of implementation and the results to stakeholders							

School Code: __ __ __ -- __ __ __ __
Date of Visit:_____

NOTES:

Follow-Up Questions/Answers	*Additional Relevant Information:*
Clarification of sources of evidence (as needed):	*Preliminary Essential Actions:*
Summary Statements (as needed):	

Appendix B

School-Level Comparisons of Changes in Percentages of Students Passing SOL Tests

Change in Percent of Students Passing SOLs for Third-Grade Subjects

	Baseline							Intervention					
	1998	1999	2000	2001	2002	1998-2002 change	1998-2002 % change	2003	2002-2003 change	2002-2003 % change	2004	2002-2004 change	2002-2004 % change
Third-Grade English													
School A	30.0	25.0	27.1	28.0	38.6	8.6	28.8%	40.0	1.4	3.5%	21.8750	-16.8	-43.4%
School A Control	37.0	30.4	24.5	53.7	43.6	6.7	18.1%	40.7	-3.0	-6.8%	82.6923	39.1	89.5%
School B			33.3	19.6	38.9			59.3	20.4	52.4%	60.6061	21.7	55.8%
School B Control	38.8	48.9	25.9	47.1	39.3	0.5	1.3%	33.3	-6.0	-15.2%	35.7143	-3.6	-9.1%
School C	20.3	26.6	35.3	24.2	45.7	25.4	125.0%	36.1	-9.5	-20.9%	20.4545	-25.2	-55.2%
School C Control	18.6	11.4	16.1	23.5	38.8	20.2	108.4%	50.0	11.2	28.9%	56.2500	17.5	45.1%
School D	43.8	34.2	26.4	27.3	45.7	1.9	4.4%	41.0	-4.7	-10.3%	37.5000	-8.2	-17.9%
School D Control	19.0	31.0	38.3	31.4	78.2	59.1	310.5%	70.4	-7.8	-10.0%	66.1017	-12.1	-15.5%
School E	28.7	45.9	55.2	28.8	44.1	15.3	53.4%	51.1	7.0	15.9%	29.8246	-14.2	-32.3%
School E Control	37.8	17.2	13.8	10.7	45.1	7.3	19.4%	53.2	8.1	17.9%	58.1818	13.1	29.0%
School F	30.1	35.9	33.1	39.6	53.7	23.6	78.5%	56.7	3.0	5.6%	81.4815	27.8	51.8%
School F Control	33.3	60.7	42.1	41.4	67.2	33.9	101.7%	63.8	-3.5	-5.2%	58.1818	-9.1	-13.5%
School G	20.0	20.6	12.3	16.7	39.7	19.7	98.3%	49.0	9.3	23.5%	50.8772	11.2	28.3%

	Baseline							Intervention					
	1998	**1999**	**2000**	**2001**	**2002**	**1998-2002 change**	**1998-2002 % change**	**2003**	**2002-2003 change**	**2002-2003 % change**	**2004**	**2002-2004 change**	**2002-2004 % change**
School G Control	33.3	33.9	25.0	21.2	28.9	-4.4	-13.3%	36.5	7.6	26.5%	60.0000	31.1	107.7%
Third-Grade Math													
School A	49.0	28.0	32.7	34.0	44.4	-4.5	-9.3%	57.5	13.1	29.4%	62.5	18.1	40.6%
School A Control	34.8	37.5	47.2	51.9	69.5	34.7	99.8%	91.9	22.4	32.3%	90.2	20.7	29.8%
School B			35.2	30.4	22.6			74.1	51.4	227.2%	84.8	62.2	274.5%
School B Control	50.0	55.3	38.2	50.0	34.4	-15.6	-31.1%	47.6	13.2	38.3%	66.7	32.3	93.7%
School C	44.9	27.8	47.1	36.4	39.1	-5.8	-12.9%	57.1	18.0	46.0%	54.3	15.2	38.8%
School C Control	32.6	13.3	12.9	31.4	47.3	14.7	45.2%	70.8	23.6	49.8%	72.3	25.0	52.9%
School D	48.0	30.2	33.8	38.6	41.3	-6.8	-14.1%	53.5	12.2	29.7%	53.1	11.9	28.7%
School D Control	12.2	27.6	40.3	50.0	58.9	46.7	383.2%	78.6	19.6	33.3%	86.4	27.5	46.6%
School E	50.0	45.9	59.3	36.1	47.5	-2.5	-5.1%	68.1	20.6	43.5%	50.9	3.4	7.3%
School E Control	34.8	17.2	20.6	27.1	61.2	26.4	76.0%	64.0	2.8	4.5%	87.3	26.1	42.6%
School F	46.4	34.0	33.8	44.4	66.7	20.2	43.6%	62.0	-4.7	-7.0%	85.2	18.5	27.8%
School F Control	46.7	50.8	57.9	54.8	75.9	29.2	62.6%	80.8	5.0	6.5%	77.8	1.9	2.6%

	Baseline							Intervention					
	1998	**1999**	**2000**	**2001**	**2002**	**1998-2002 change**	**1998-2002 % change**	**2003**	**2002-2003 change**	**2002-2003 % change**	**2004**	**2002-2004 change**	**2002-2004 % change**
School G	38.5	25.0	20.3	31.1	42.9	4.4	11.4%	61.2	18.4	42.9%	60.3	17.4	40.7%
School G Control	37.8	37.5	41.7	37.0	37.8	0.0	0.0%	60.7	22.9	60.6%	90.0	52.2	138.2%
Third-Grade History													
School A	20.4	42.9	20.4	26.0	44.7	24.3	118.9%	60.0	15.3	34.3%	59.4	14.7	32.9%
School A Control	8.7	20.0	17.0	43.6	52.7	44.0	506.4%	87.9	35.2	66.8%	100.0	47.3	89.7%
School B			16.7	23.9	46.3			75.9	29.6	64.0%	69.7	23.4	50.6%
School B Control	52.0	47.8	43.6	51.0	40.0	-12.0	-23.1%	35.3	-4.7	-11.8%	65.7	25.7	64.3%
School C	14.5	24.1	52.9	42.4	56.5	42.0	290.0%	33.3	-23.2	-41.0%	58.7	2.2	3.9%
School C Control	16.3	2.3	3.2	51.0	47.9	31.6	194.3%	60.4	12.5	26.1%	78.0	30.1	62.8%
School D	31.5	21.6	18.1	25.8	39.5	8.0	25.3%	62.4	22.8	57.8%	70.8	31.3	79.2%
School D Control	9.4	24.4	37.1	41.1	71.4	62.0	658.9%	74.5	3.1	4.4%	90.2	18.8	26.3%
School E	38.6	41.7	42.4	25.4	27.6	-11.1	-28.6%	59.6	32.0	116.0%	48.2	20.6	74.7%
School E Control	26.7	14.1	27.3	32.1	56.3	29.6	110.9%	85.1	28.9	51.3%	75.5	19.3	34.2%
School F	27.5	33.3	26.9	45.1	54.3	26.8	97.5%	64.2	9.9	18.3%	89.5	35.2	65.0%

	Baseline							Intervention					
	1998	1999	2000	2001	2002	1998-2002 change	1998-2002 % change	2003	2002-2003 change	2002-2003 % change	2004	2002-2004 change	2002-2004 % change
School F Control	26.7	35.0	67.8	78.0	76.7	50.0	187.5%	83.3	6.7	8.7%	84.3	7.6	10.0%
School G	12.3	19.4	10.2	8.2	38.6	26.3	213.6%	55.1	16.5	42.8%	56.1	17.5	45.3%
School G Control	25.0	38.6	33.3	43.6	24.4	-0.6	-2.2%	36.7	12.2	50.0%	100.0	75.6	309.1%
Third-Grade Science													
School A	30.0	20.4	26.5	34.0	36.2	6.2	20.6%	66.7	30.5	84.3%	50.0	13.8	38.2%
School A Control	21.7	25.0	35.8	47.3	44.4	22.7	104.4%	96.6	52.1	117.2%	95.9	51.5	115.8%
School B			33.3	30.4	35.2			70.4	35.2	100.0%	90.9	55.7	158.3%
School B Control	55.3	36.2	41.5	51.9	43.4	-11.9	-21.6%	39.0	-4.4	-10.1%	54.3	10.9	25.1%
School C	34.8	25.3	55.9	27.3	47.8	13.0	37.5%	57.1	9.3	19.5%	44.4	-3.4	-7.2%
School C Control	26.2	4.8	24.2	49.0	60.4	34.2	130.7%	66.7	6.3	10.3%	71.4	11.0	18.2%
School D	40.4	26.4	28.8	31.5	38.1	-2.3	-5.7%	60.7	22.6	59.4%	62.5	24.4	64.1%
School D Control	21.4	35.6	54.1	46.4	68.3	46.9	218.9%	82.1	13.8	20.2%	82.3	14.0	20.4%
School E	39.4	58.3	57.6	38.1	41.4	2.0	5.1%	60.8	19.4	46.9%	35.1	-6.3	-15.2%
School E Control	34.9	12.5	27.7	30.2	49.0	14.1	40.4%	66.7	17.7	36.1%	81.1	32.1	65.6%

	Baseline							Intervention					
	1998	**1999**	**2000**	**2001**	**2002**	**1998-2002 change**	**1998-2002 % change**	**2003**	**2002-2003 change**	**2002-2003 % change**	**2004**	**2002-2004 change**	**2002-2004 % change**
School F	42.0	37.9	29.2	47.2	61.7	19.7	47.1%	64.2	2.5	4.0%	86.8	25.1	40.7%
School F Control	31.1	55.0	53.4	61.0	82.8	51.6	166.0%	76.7	-6.0	-7.3%	82.6	-0.2	-0.2%
School G	23.1	17.9	10.2	24.6	49.1	26.0	112.9%	58.8	9.7	19.7%	68.4	19.3	39.2%
School G Control	37.8	32.1	37.5	24.5	37.8	0.0	0.0%	47.3	9.5	25.1%	96.8	59.0	156.2%

At the third-grade level, during the first and second years of the Model IV Intervention period, the following trends were found when change in SOL scores was compared for years 2002 and 2003 and years 2002 and 2004:

- In Year 1, students in 5 of the 7 Petersburg elementary schools (Schools A, B, E, F, and G) show gains in the percentages of students passing English SOLs whereas only 3 Richmond control schools showed gains in English SOL scores. In Year 2, Petersburg elementary student pass-rate gains in English SOL scores dropped with only 3 of 7 schools (Schools B, F, and G) showing gains in the percentage of students passing the English SOLs whereas Richmond elementary students show gains in 4 of 7 control schools.
- In Year 1, students in 6 of the 7 Petersburg elementary schools (Schools A, B, C, D, E, and G) show gains in the percentages of students passing math SOLs and 7 Richmond City control schools show percentage gains for students passing the math SOLs. By Year 2, all 7 Petersburg and Richmond elementary schools show gains in the percentages of students passing the math SOLs.
- In Year 1, students in 6 of the 7 Petersburg elementary schools (Schools A, B, D, E, F, and G) show gains in the percentages of students passing history SOLs. By Year 2, Petersburg elementary school C joins the other Petersburg elementary schools in showing gains in the percentages of students passing history SOLS. The 7 Richmond City control schools show gains in the percentage of students passing the history SOLS in both Years 1 and 2.
- In Year 1, the 7 Petersburg elementary schools show gains in the percentages of students passing science SOLs whereas the Richmond City control schools show gains in the percentages of students passing science SOLs in only 5 of 7 schools. In Year 2, Petersburg elementary schools C and E lost the percentage gains in student pass rate achieved in the prior study year whereas 6 out of 7 Richmond City control schools showed gains in the percentage of students passing science SOLs.

Further comparisons in SOL test results between third graders in Richmond control schools and third graders in Petersburg schools during the first and second intervention years produced the following results:

- During Year 1, Petersburg elementary schools A, B, and F (compared to their matched comparison Richmond schools) show a greater increase in the percentages of students passing SOLs in English. However, in Year 2 only Petersburg schools B and F show a greater increase in the percentages of students passing SOLs in English than their Richmond control schools.

- During Year 1, Petersburg elementary schools B and E show a greater increase in the percentages of students passing SOLs in math compared to their matched comparison Richmond school. In Year 2, Petersburg schools A, B, and F show a greater increase in the percentage of students passing the math SOLs compared with their Richmond City control school.
- During Year 1, Petersburg elementary schools B, D, E, and F show a greater increase in the percentages of students passing SOLs in history compared to their matched comparison Richmond City schools. In Year 2, Schools D, E, and F continue to show greater increases in the percentage of students passing SOLs in history than do their matched comparison Richmond schools.
- During Year 1, Petersburg elementary schools B, C, D, E. and F show a greater increase in the percentage of students passing SOLs in science compared to their matched comparison Richmond City schools. In Year 2, only Petersburg schools B, D, and F continue to show greater increases in the percentage of students passing SOLs in science than do their Richmond comparison schools.

Change in Percent of Students Passing SOLs for Fifth-Grade Subjects

	Baseline							Intervention					
	1998	1999	2000	2001	2002	1998-2002 change	1998-2002 % change	2003	2002-2003 change	2002-2003 % change	2004	2002-2004 change	2002-2004 % change
Fifth-Grade Writing													
School A	31.4	36.7	60.5	59.1	70.6	39.2	125.0%	58.3	-12.3	-17.4%	63.2	-7.4	-10.5%
School A Control	33.3	41.2	44.2	57.4	59.6	26.2	78.7%	87.2	27.7	46.4%	91.7	32.1	53.9%
School B			76.7	63.3	70.0			73.6	3.6	5.1%	69.0	-1.0	-1.4%
School B Control	61.9	83.3	47.2	82.5	69.8	7.9	12.7%	89.2	19.4	27.8%	100.0	30.2	43.3%
School C	26.2	55.2	50.0	68.8	56.9	30.7	117.1%	41.8	-15.0	-26.5%	64.6	7.7	13.6%
School C Control	32.7	56.3	48.6	39.4	35.4	2.8	8.5%	60.5	25.0	70.7%	81.3	45.9	129.6%
School D	39.1	63.7	53.8	54.3	39.1	0.0	0.0%	50.0	10.9	28.0%	69.7	30.6	78.4%
School D Control	47.7	56.1	67.8	95.3	60.9	13.2	27.7%	84.1	23.2	38.1%	91.8	30.9	50.8%
School E	48.2	60.4	65.2	80.0	55.1	6.9	14.3%	45.3	-9.8	-17.8%	70.9	15.8	28.7%
School E Control	14.6	50.0	42.9	30.4	32.4	17.8	122.4%	45.8	13.4	41.3%	89.5	57.1	176.0%
School F	38.5	60.6	65.8	66.9	65.2	26.7	69.3%	73.3	8.0	12.3%	66.7	1.5	2.3%
School F Control	41.5	69.2	86.9	89.7	79.4	37.9	91.3%	82.8	3.3	4.2%	98.2	18.8	23.7%
School G	31.3	67.6	76.9	58.5	51.8	20.5	65.7%	52.0	0.2	0.4%	74.0	22.2	42.9%
School G Control	41.7	73.8	54.8	59.2	40.5	-1.2	-2.9%	68.9	28.4	70.2%	97.4	56.9	140.6%
Fifth-Grade English													
School A	49.0	25.0	37.8	17.1	45.9	-3.1	-6.3%	56.8	10.8	23.5%	54.1	8.2	17.7%

	Baseline							Intervention					
	1998	1999	2000	2001	2002	1998-2002 change	1998-2002 % change	2003	2002-2003 change	2002-2003 % change	2004	2002-2004 change	2002-2004 % change
School A Control	26.0	28.0	21.4	35.2	41.3	15.3	58.9%	72.9	31.6	76.5%	76.2	34.9	84.5%
School B			50.0	38.3	52.6			51.9	-0.7	-1.3%	78.0	25.4	48.2%
School B Control	38.1	40.0	26.4	61.0	48.7	10.6	27.9%	76.3	27.6	56.6%	83.3	34.6	71.0%
School C	30.0	41.7	30.0	34.4	50.9	20.9	69.6%	35.7	-15.2	-29.8%	53.7	2.8	5.5%
School C Control	26.0	20.4	22.5	34.4	25.9	-0.1	-0.5%	84.4	58.6	226.5%	97.4	71.5	276.6%
School D	53.3	49.5	32.5	25.6	34.8	-18.5	-34.7%	38.7	3.8	11.0%	45.3	10.5	30.0%
School D Control	36.0	37.5	36.7	56.3	46.5	10.6	29.4%	71.7	25.2	54.2%	89.5	43.0	92.4%
School E	51.7	58.7	31.8	42.0	27.7	-24.1	-46.5%	43.4	15.7	56.9%	52.6	24.9	90.2%
School E Control	13.3	18.2	17.2	20.4	11.4	-2.0	-14.8%	42.0	30.6	269.6%	66.7	55.3	487.0%
School F	44.2	43.5	21.6	32.8	53.4	9.3	21.0%	78.4	25.0	46.7%	58.7	5.3	9.8%
School F Control	48.1	29.4	71.7	41.4	78.0	29.9	62.2%	60.7	-17.3	-22.1%	93.1	15.1	19.4%
School G	32.3	57.1	29.7	33.3	32.2	-0.1	-0.3%	56.9	24.7	76.6%	58.3	26.1	81.0%
School G Control	25.4	25.6	36.6	33.3	34.1	8.7	34.1%	59.6	25.5	74.8%	93.3	59.2	173.7%
Fifth-Grade Math													
School A	23.5	12.5	29.7	9.5	21.1	-2.5	-10.5%	40.5	19.5	92.6%	48.6	27.5	130.9%
School A Control	14.0	2.0	23.8	14.8	60.9	46.9	334.8%	79.2	18.4	30.2%	86.0	25.1	41.3%
School B	.	.	45.2	25.5	17.9			32.1	14.2	79.6%	79.7	61.8	346.3%

	Baseline							Intervention					
	1998	1999	2000	2001	2002	1998-2002 change	1998-2002 % change	2003	2002-2003 change	2002-2003 % change	2004	2002-2004 change	2002-2004 % change
School B Control	25.6	40.0	32.1	41.5	59.0	33.4	130.5%	75.0	16.0	27.2%	51.1	-7.9	-13.4%
School C	10.0	5.0	17.5	25.0	24.6	14.6	145.6%	21.4	-3.1	-12.8%	35.2	10.6	43.3%
School C Control	26.0	4.1	20.5	28.1	28.0	2.0	7.7%	74.0	46.0	164.3%	97.4	69.4	247.9%
School D	18.7	11.1	37.0	17.8	13.4	-5.2	-28.1%	40.3	26.8	199.8%	35.9	22.5	167.3%
School D Control	18.2	14.1	25.0	52.9	63.6	45.5	250.0%	71.4	7.8	12.2%	73.7	10.1	15.8%
School E	25.9	28.3	22.7	29.4	32.6	6.7	26.1%	35.8	3.2	9.9%	50.9	18.3	56.1%
School E Control	10.9	4.7	16.9	10.2	16.2	5.3	49.2%	16.4	0.1	0.9%	65.1	48.9	301.5%
School F	13.1	8.3	19.0	23.9	37.6	24.5	186.8%	50.9	13.3	35.5%	46.8	9.2	24.4%
School F Control	9.6	19.6	69.4	41.4	86.2	76.6	796.6%	40.0	-46.2	-53.6%	93.1	6.9	8.0%
School G	6.2	18.4	10.9	12.3	11.5	5.3	86.5%	73.1	61.6	536.8%	52.0	40.5	353.1%
School G Control	11.9	20.9	43.9	31.3	31.1	19.2	162.2%	72.9	41.8	134.4%	88.9	57.8	185.8%
Fifth-Grade History													
School A	11.8	11.6	0.0	6.8	27.8	16.0	136.1%				83.8	56.0	201.7%
School A Control	8.0	4.0	6.1	5.2	56.6	48.6	607.5%	84.6	28.0	49.5%	97.8	41.2	72.8%
School B			5.5	15.8	41.4						94.9	53.5	129.3%
School B Control	9.3	22.9	16.2	19.2	29.2	19.9	214.2%	69.0	39.8	136.2%	97.0	67.8	231.8%
School C	5.0	7.9	28.6	57.1	46.2	41.2	823.1%				81.5	35.3	76.6%
School C	2.0	2.0	5.1	27.6	48.8	46.8	2341.9%	72.5	23.7	48.5%	78.3	29.5	60.3%

	Baseline							Intervention					
	1998	1999	2000	2001	2002	1998-2002 change	1998-2002 % change	2003	2002-2003 change	2002-2003 % change	2004	2002-2004 change	2002-2004 % change
Control													
School D	4.5	13.0	16.0	6.9	23.5	19.0	421.9%				62.5	39.0	166.4%
School D Control	7.9	4.7	15.0	26.7	67.2	59.4	754.9%	89.6	22.3	33.2%	96.7	29.5	43.8%
School E	32.8	25.2	8.6	17.4	35.5	2.7	8.3%				42.1	6.6	18.6%
School E Control	4.4	9.1	0.9	0.0	13.5	9.0	202.9%	38.1	24.6	183.0%	68.8	55.3	411.1%
School F	5.6	8.6	4.2	31.2	67.9	62.2	1102.0%				53.5	-14.4	-21.2%
School F Control	17.3	20.8	21.7	37.3	59.3	42.0	242.7%	90.5	31.2	52.5%	88.4	29.1	49.0%
School G	3.1	19.9	7.9	6.5	6.3	3.3	106.4%				39.6	33.3	523.7%
School G Control	1.7	27.9	15.0	18.6	30.8	29.1	1715.4%	21.6	-9.1	-29.7%	97.1	66.3	215.6%
Fifth-Grade Science													
School A	27.5	10.4	8.1	31.0	15.4	-12.1	-44.0%	30.6	15.2	98.6%	62.2	46.8	304.3%
School A Control	20.0	12.0	9.5	28.3	37.0	17.0	84.8%	87.5	50.5	136.8%	92.1	55.1	149.2%
School B			45.2	25.5	21.4			34.6	13.2	61.5%	84.7	63.3	295.3%
School B Control	20.9	57.1	25.5	58.5	50.0	29.1	138.9%	57.9	7.9	15.8%	88.9	38.9	77.8%
School C	20.0	18.3	15.0	37.5	24.6	4.6	22.8%	21.8	-2.7	-11.2%	42.6	18.0	73.4%
School C Control	18.4	14.3	5.0	31.3	38.0	19.6	106.9%	42.3	4.3	11.3%	96.9	58.9	155.0%
School D	25.9	25.8	27.8	44.4	22.1	-3.8	-14.8%	47.9	25.9	117.4%	61.7	39.6	179.7%
School D	30.7	18.8	18.3	72.5	54.3	23.7	77.1%	76.6	22.2	40.9%	85.7	31.4	57.7%

	Baseline							Intervention					
	1998	**1999**	**2000**	**2001**	**2002**	**1998-2002 change**	**1998-2002 % change**	**2003**	**2002-2003 change**	**2002-2003 % change**	**2004**	**2002-2004 change**	**2002-2004 % change**
Control													
School E	40.4	42.2	21.5	47.1	22.4	-17.9	-44.4%	28.3	5.9	26.1%	42.1	19.7	87.5%
School E Control	9.1	13.6	3.5	21.3	10.5	1.4	15.8%	38.0	27.5	261.0%	94.4	83.9	796.8%
School F	28.2	27.5	13.8	50.0	47.4	19.1	67.8%	51.5	4.1	8.7%	48.5	1.1	2.4%
School F Control	28.8	30.2	59.7	51.4	72.6	43.7	151.6%	59.4	-13.2	-18.2%	93.1	20.5	28.3%
School G	20.3	36.8	14.1	31.6	30.0	9.7	47.7%	73.6	43.6	145.3%	75.0	45.0	150.0%
School G Control	18.6	21.4	29.3	34.8	24.4	5.8	31.1%	52.7	28.3	115.7%	94.7	70.3	287.4%

There are mostly gains in the percentages of fifth-grade student pass rates in Years 1 and 2 (2003 and 2004) compared with pre-intervention year (2002). However, in Year 1, schools A, C, and E show decreases in percentage of student pass rates for the writing SOL test, and schools B and C show decreases in percentage of student pass rates for the English SOL test. In addition, School C shows decreases in the percentages of students passing SOLs in math and science. In Year 2, there are gains in the percentage of student pass rates in all SOL tests. Only schools A and B still show decreases in percentage of student pass rates for the writing SOL test, and only school F shows a decrease in percentage of student pass rates for the history SOL test.

For the fifth-grade SOLs in Year 1 and continuing for Year 2, most Richmond control schools show greater increases in percentages of pass rates (compared to the Petersburg schools) for the SOLs in writing and English; this pattern begins to reverse in the math and science SOLs, where the Petersburg schools seem to be making greater gains than the Richmond schools. The SOL data for fifth-grade history were incomplete in Year 1; however, in Year 2 most Petersburg Schools show the percentage of student pass rates for the SOL history test exceeds those student pass rates in the selected matched comparison schools in Richmond.

Change in Percent of Students Passing SOLs for Eighth-Grade Subjects

	Baseline							Intervention					
	1998	1999	2000	2001	2002	1998-2002 change	1998-2002 % change	2003	2002-2003 change	2002-2003 % change	2004	2002-2004 change	2002-2004 % change
Eighth-Grade Writing													
School H	38.5	40.8	51.8	51.0	36.0	-2.5	-6.5%	32.8	-3.2	-8.8%	47.6	11.6	32.3%
School H Control	41.1	45.5	44.7	47.3	46.1	5.0	12.3%	51.9	5.8	12.6%	73.9	27.8	60.2%
School I				58.8	59.4			52.1	-7.3	-12.3%	56.1	-3.3	-5.5%
School I Control	50.3	38.2	58.2	43.7	61.2	10.9	21.7%	72.0	10.8	17.6%	88.3	27.1	44.3%
Eighth-Grade English													
School H	36.9	42.3	35.8	53.8	37.4	0.5	1.4%	28.3	-9.2	-24.5%	38.6	1.2	3.1%
School H Control	35.6	32.9	39.8	46.1	41.0	5.4	15.2%	37.2	-3.8	-9.2%	53.4	12.4	30.3%
School I				42.4	50.6			42.7	-7.9	-15.7%	35.6	-15.0	-29.6%
School I Control	50.8	39.8	46.6	48.7	66.7	15.9	31.3%	67.1	0.5	0.7%	69.7	3.0	4.5%
Eighth-Grade Math													
School H	17.0	23.6	16.4	26.0	21.6	4.7	27.4%	31.6	10.0	46.0%	35.3	13.7	63.1%
School H Control	15.7	22.3	18.6	25.5	26.5	10.8	68.6%	49.7	23.3	87.9%	61.2	34.7	131.2%
School I				21.3	35.2			52.7	17.5	49.8%	48.3	13.1	37.3%
School I Control	28.1	25.3	26.8	39.6	66.3	38.1	135.6%	78.9	12.7	19.2%	81.3	15.0	22.7%
Eighth-Grade History													
School H	5.6	9.3	13.4	19.7	18.7	13.1	235.9%	25.0	6.3	34.0%			
School H	6.8	4.0	7.6	5.0	22.6	15.8	231.9%	40.1	17.5	77.5%			

	Baseline							Intervention					
	1998	**1999**	**2000**	**2001**	**2002**	**1998-2002 change**	**1998-2002 % change**	**2003**	**2002-2003 change**	**2002-2003 % change**	**2004**	**2002-2004 change**	**2002-2004 % change**
Control													
School I				31.7	25.1			57.0	31.9	127.0%			
School I Control	8.9	13.4	18.7	31.8	55.8	46.9	526.5%	93.2	37.5	67.2%			
Eighth-Grade Science													
School H	32.2	39.1	42.9	53.8	44.0	11.8	36.7%	38.9	-5.1	-11.6%	51.4	7.4	16.9%
School H Control	30.3	39.2	39.5	44.9	53.1	22.8	75.1%	53.3	0.2	0.5%	68.9	15.8	29.9%
School I				51.5	56.7			47.3	-9.4	-16.6%	57.6	0.9	1.6%
School I Control	50.3	54.7	62.4	59.1	81.8	31.5	62.7%	73.6	-8.2	-10.0%	86.2	4.4	5.4%

At the eighth-grade level, during the first and second years of Model IV Intervention (2003 and 2004), the following trends were found when change comparisons were made with the pre-intervention year 2002 for both Petersburg schools and their Richmond City comparison school:

- Year 1 data show decreases in the percentages of Petersburg's eighth-grade students who passed the SOL tests in writing, English, and science SOLs in both Schools H and I; however, in Year 2, only School I shows decreases in the percentage pass rates for students taking SOL tests in writing and English. All eighth graders in Petersburg Schools show gains in the SOL pass rate for the science test.

- Year 1 data show increases in the percentages of Richmond comparison schools for eighth-grade students who passed the writing SOL test for Schools H and I control school. However, these Richmond control schools vary on SOL test performance for English and science, with School H control showing an increase in the pass rate percentage for science and School I control showing a percentage pass rate increase for eighth-grade students who took the English SOLs. In Year 2 data show increases in the percentage pass-rate of Petersburg School H and Richmond comparison schools for eighth-grade students who took the SOL tests for writing, English, math, and science. In Petersburg, School I data show decreases in the percentage pass rate for students who took the writing and English SOL tests.

- Year 1 data show gains in the pass rate percentages for Petersburg eighth-grade math and history SOLs, although Petersburg students in school H show smaller percentages in passing SOLs in math and history than do students in the Richmond comparison schools H. This situation is reversed for Petersburg School I and Richmond School I control. In Year 2, history SOL scores are not available; however, the Richmond comparison school H control school out performs Petersburg school H on math SOL pass rate performance although the reverse relationship exists for the Richmond and Petersburg school I.

Change in Percent of Students Passing SOLs for High School Subjects

	Baseline							Intervention					
	1998	**1999**	**2000**	**2001**	**2002**	**1998-2002 change**	**1998-2002 % change**	**2003**	**2002-2003 change**	**2002-2003 % change**	**2004**	**2002-2004 change**	**2002-2004 % change**
Writing													
School J	53.6	67.7	81.1	79.2	78.5	24.9	46.5%	87.9	9.4	12.0%	79.6	1.1	1.5%
School J Control	44.8	53.4	50.0	55.8	65.0	20.2	45.0%	82.7	17.8	27.3%	73.1	8.1	12.5%
English													
School J	56.5	56.0	63.6	74.5	81.5	25.0	44.3%	89.1	7.5	9.2%	75.5	-6.0	-7.4%
School J Control	59.4	41.4	41.8	65.4	78.0	18.6	31.3%	91.4	13.5	17.3%	77.3	-0.7	-0.9%
Algebra													
School J	6.6	1.6	8.8	8.6	17.8	11.2	171.3%	44.7	26.9	151.0%	47.5	29.7	166.6%
School J Control	1.1	3.4	2.6	7.2	24.0	22.9	2156.1%	50.8	26.8	111.5%	43.0	19.0	79.2%
Geometry													
School J	7.3	19.3	20.8	25.0	30.1	22.8	311.0%	37.8	7.7	25.5%	34.7	4.6	15.2%
School J Control	10.3	4.8	8.8	14.2	32.9	22.6	218.7%	50.0	17.1	52.0%	72.0	39.1	118.9%
Algebra II													
School J	3.6	2.3	8.5	14.6	16.9	13.4	377.1%	44.4	27.5	162.4%	42.2	25.3	149.1%
School J Control	1.4	1.3	1.0	12.0	27.6	26.1	1801.9%	34.5	7.0	25.3%	58.3	30.7	111.5%
U. S. History													
School J	11.9	7.6	6.6	15.7	29.2	17.4	146.4%	48.2	19.0	65.1%			
School J Control	3.2	1.3	0.0	10.4	27.4	24.2	753.9%	34.9	7.6	27.7%			

	Baseline							Intervention					
	1998	**1999**	**2000**	**2001**	**2002**	**1998-2002 change**	**1998-2002 % change**	**2003**	**2002-2003 change**	**2002-2003 % change**	**2004**	**2002-2004 change**	**2002-2004 % change**
World History I			33.2	37.8	48.3			50.2					
School J					66.7						41.0	-25.7	-38.5%
School J Control											100.0		
World History II													
School J	11.5	11.9	80.0	18.0	43.2	31.7	275.8%	52.7	9.5	22.0%	41.3	-1.9	-4.4%
School J Control	3.8	9.9	4.2	83.3	39.5	35.8	953.5%	38.3	-1.2	-3.1%	43.8	4.3	10.9%
Earth Science													
School J	25.3	22.6	30.2	32.7	23.3	-2.0	-8.0%	48.9	25.6	110.0%	32.9	9.6	41.4%
School J Control	10.8	20.0	21.4	25.0	38.6	27.8	257.9%	53.2	14.7	38.0%	48.3	9.7	25.2%
Biology													
School J	37.7	49.1	54.4	42.5	54.2	16.5	43.9%	46.8	-7.4	-13.6%	36.9	-17.3	-31.9%
School J Control	29.8	44.1	39.4	45.3	60.3	30.4	102.0%	58.5	-1.8	-3.0%	82.7	22.4	37.2%
Chemistry													
School J	17.2	12.3	16.6	24.2	15.7	-1.5	-9.0%	40.9	25.3	161.3%	27.6	25.3	161.3%
School J Control	9.1	7.6	7.4	21.2	17.6	8.6	94.1%	32.8	15.1	85.8%	82.5	15.1	85.8%

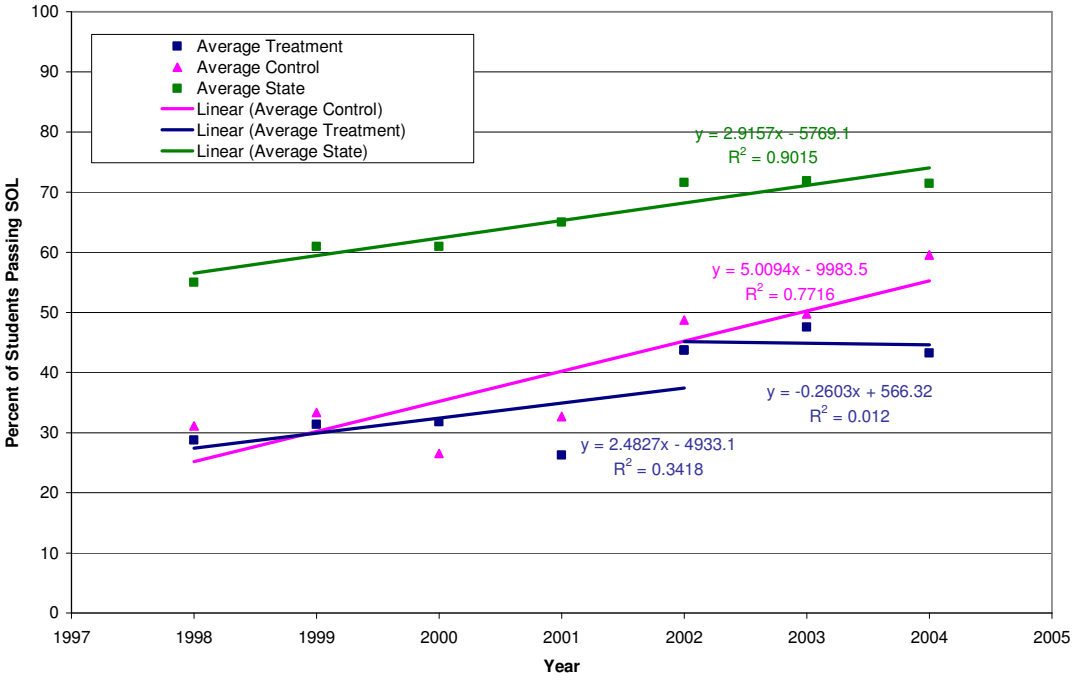
In Year 1, increased percentages of Petersburg high school students passed all high school SOL tests during the Model IV Intervention period except for the biology SOL. In Year 2, Petersburg students show again a decreased SOL pass rate in biology, but are also showing decreased SOL pass rates in English and World History I and II.

For the most part, the percentages of students passing the SOLs appears to be greater for the Petersburg high school students than for the Richmond comparison high school students except in 3 subjects—writing, English, and geometry—during Year 1 of the Model IV Intervention. However, during Year 2 of the Intervention, Petersburg high school students are performing less well than the Richmond comparison high school students in 4 subject areas—writing, geometry, World History II, and biology.

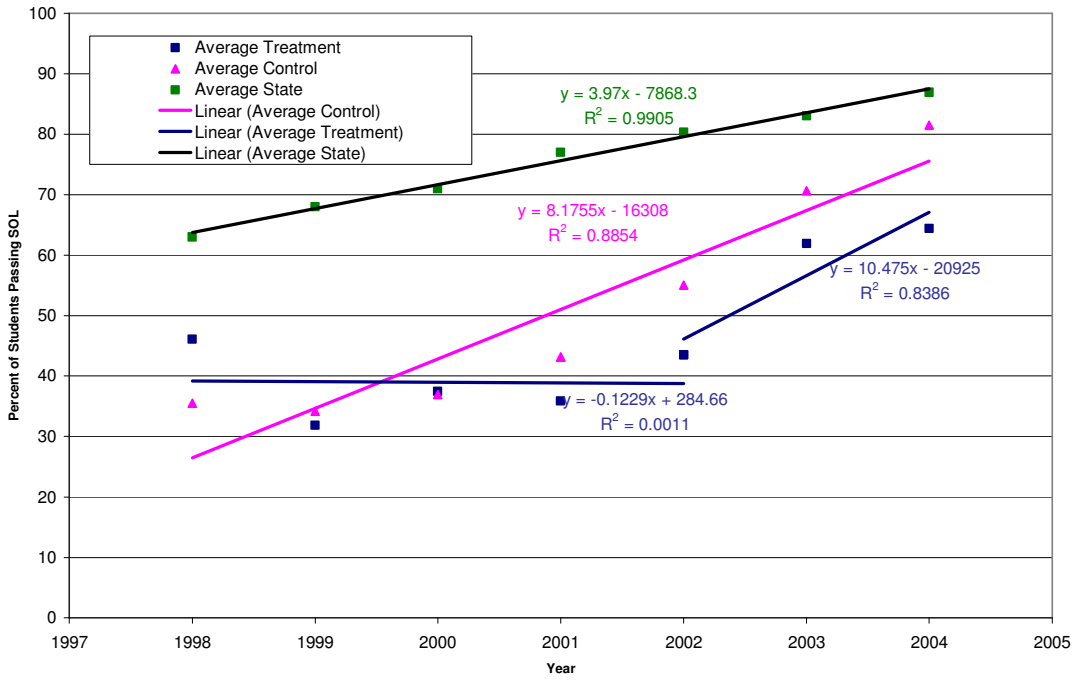
Appendix C

Trend Lines for Average Percentages of Students Passing SOL Tests

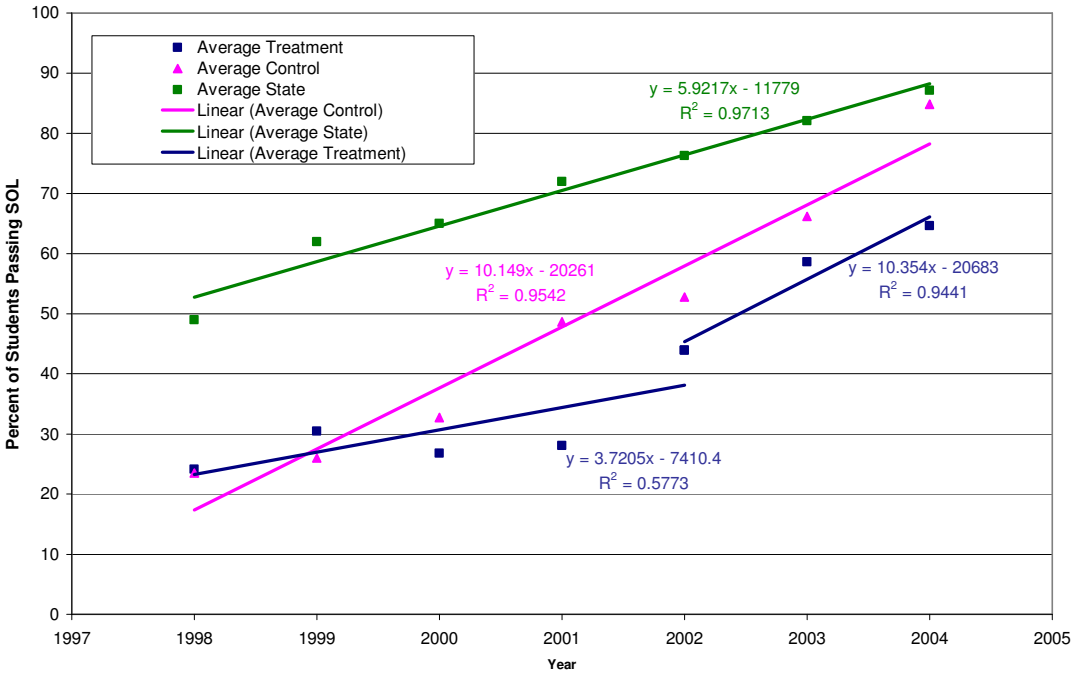
Third Grade English



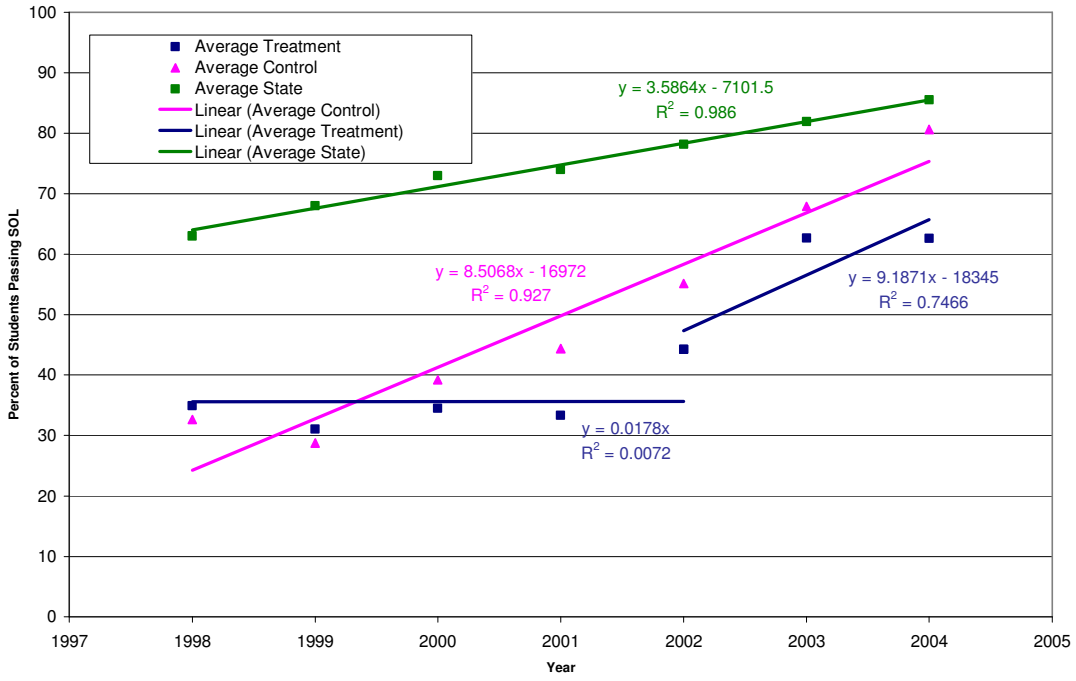
Third Grade Math



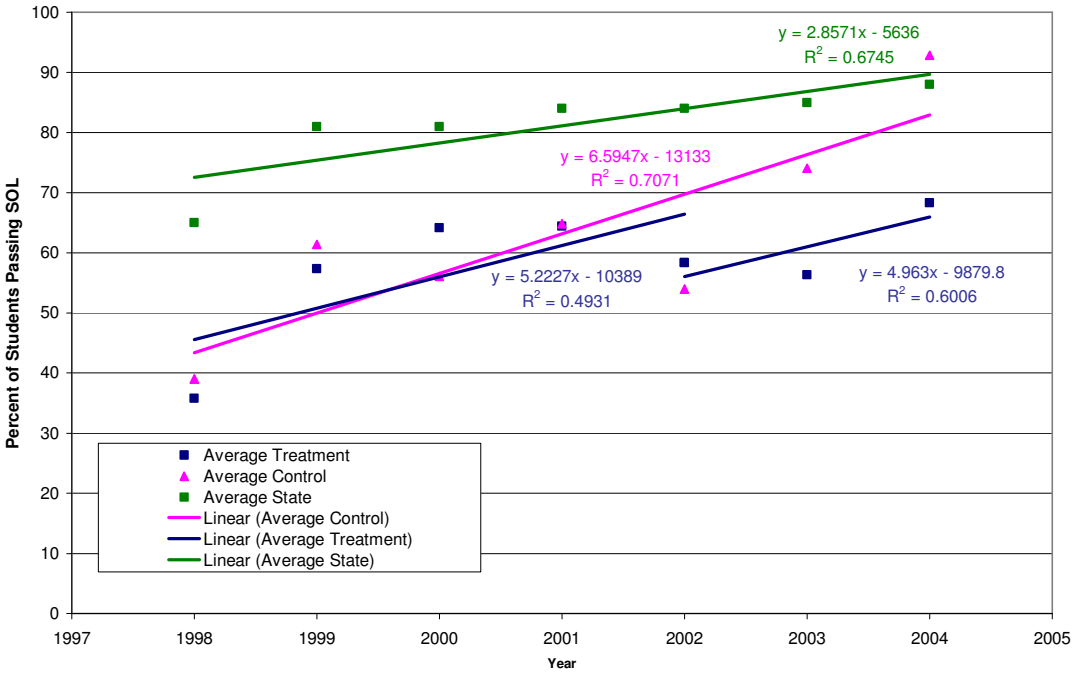
Third Grade History



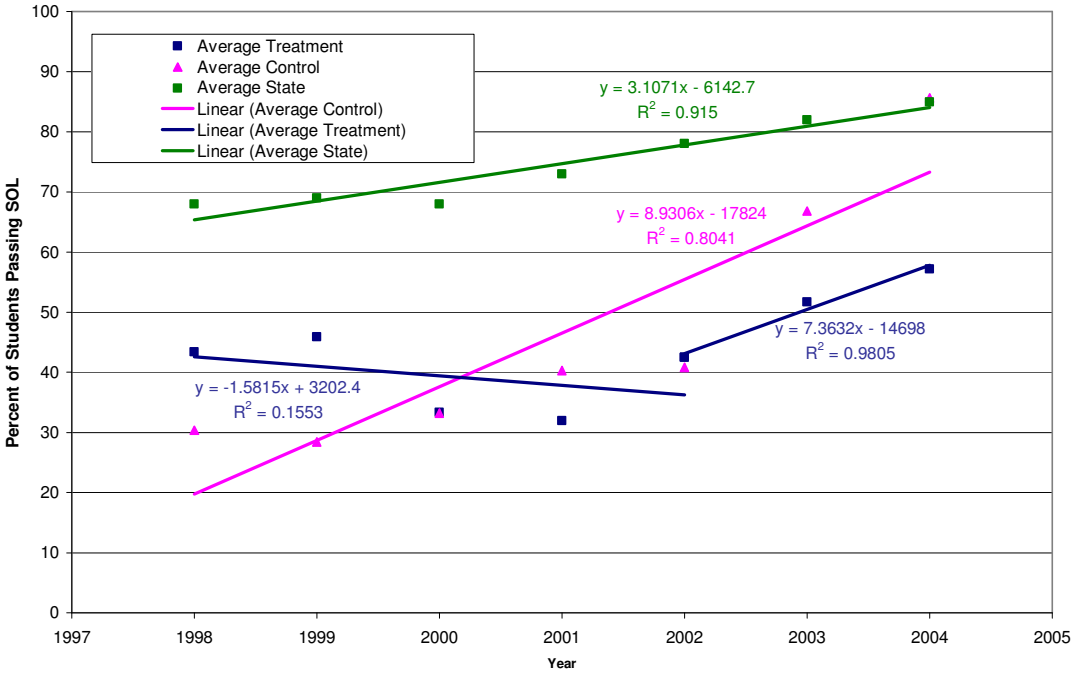
Third Grade Science



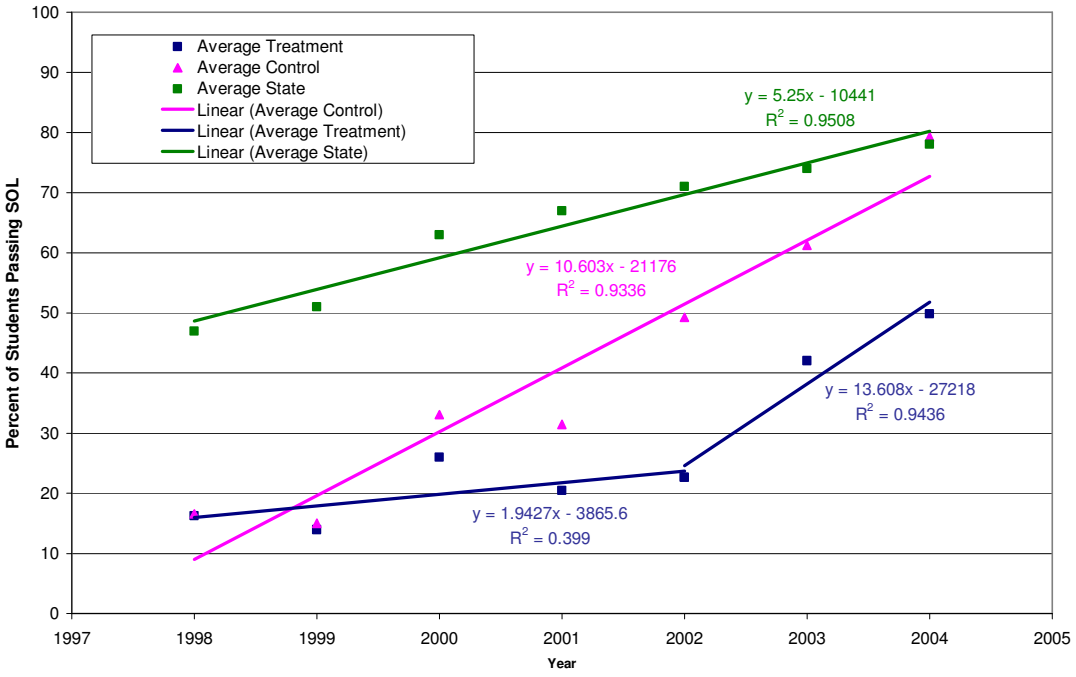
Fifth Grade Writing



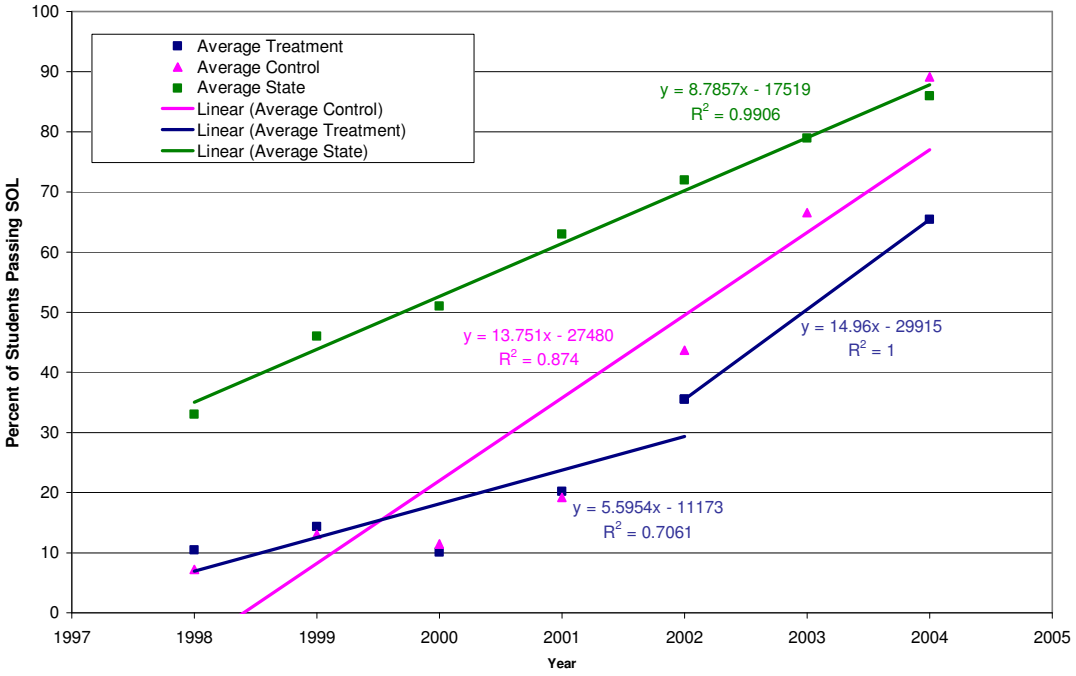
Fifth Grade English



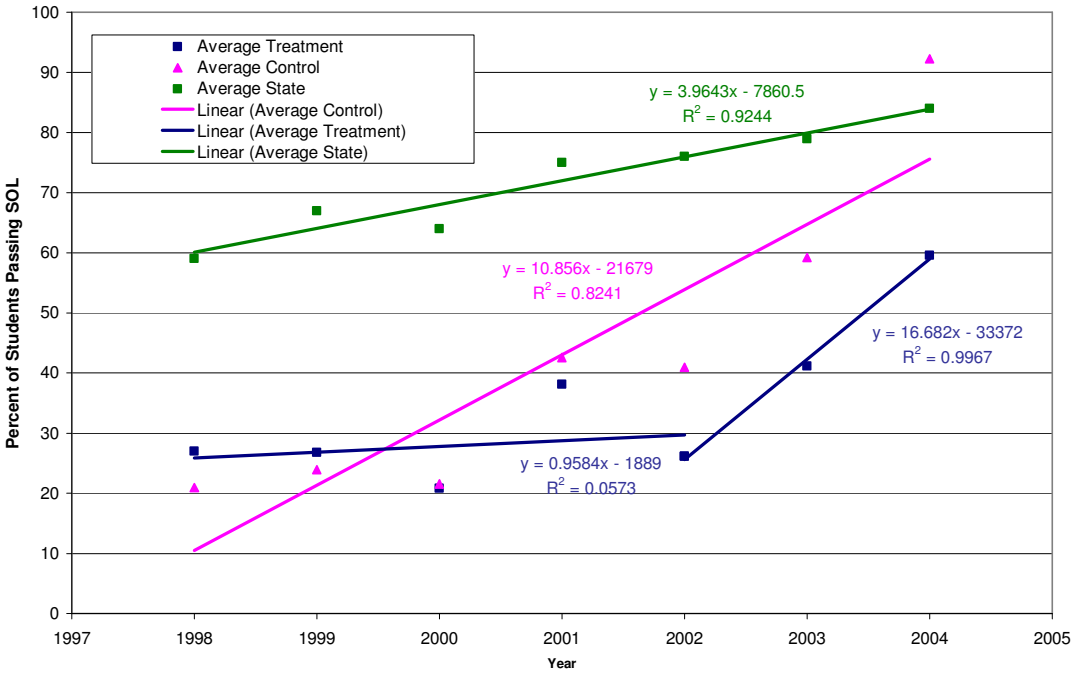
Fifth Grade Math



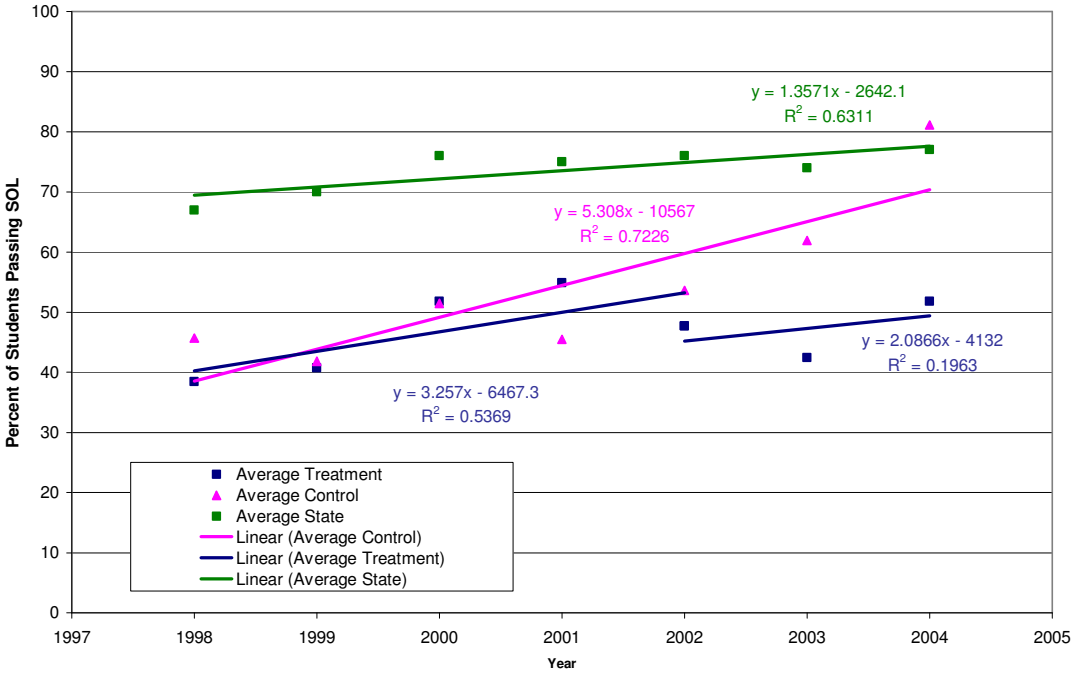
Fifth Grade History



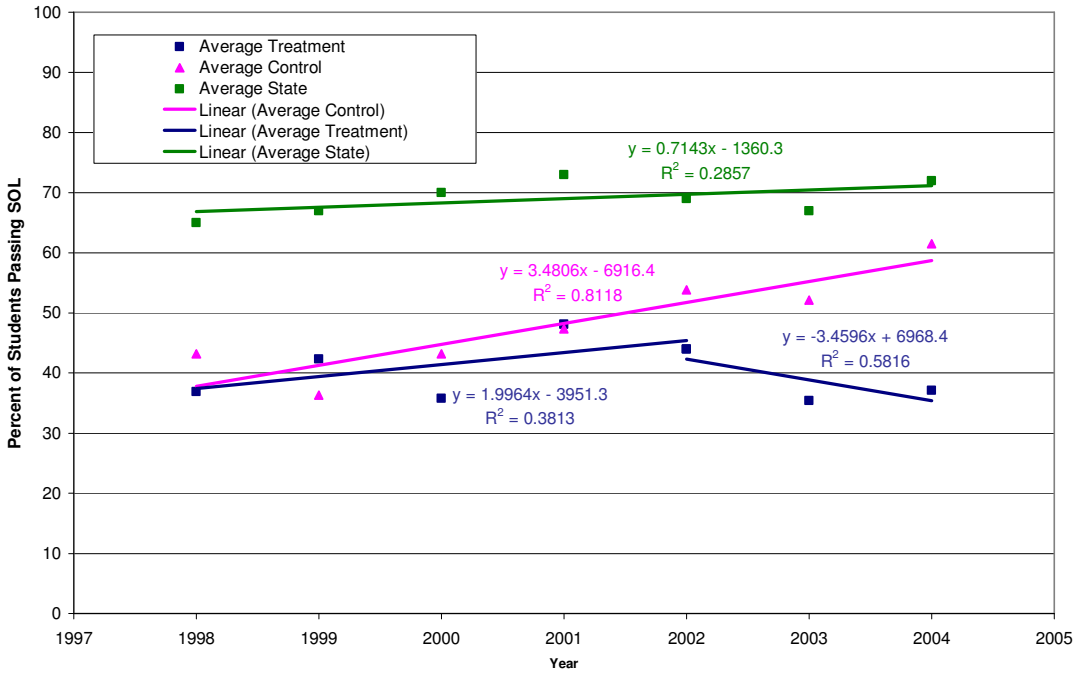
Fifth Grade Science



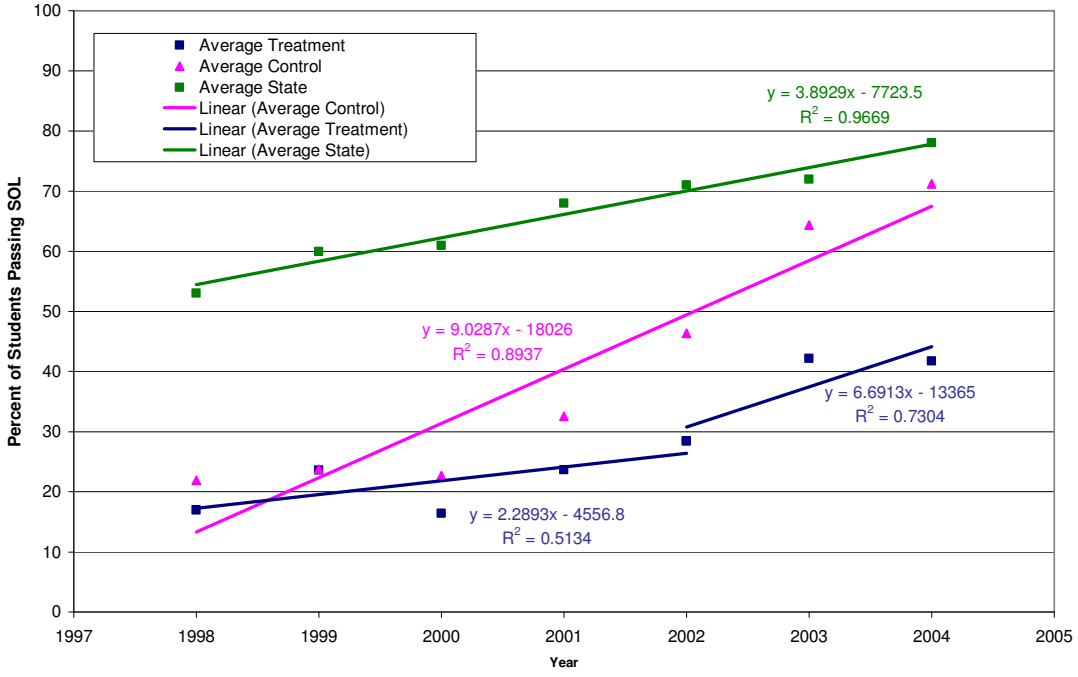
Eighth Grade Writing



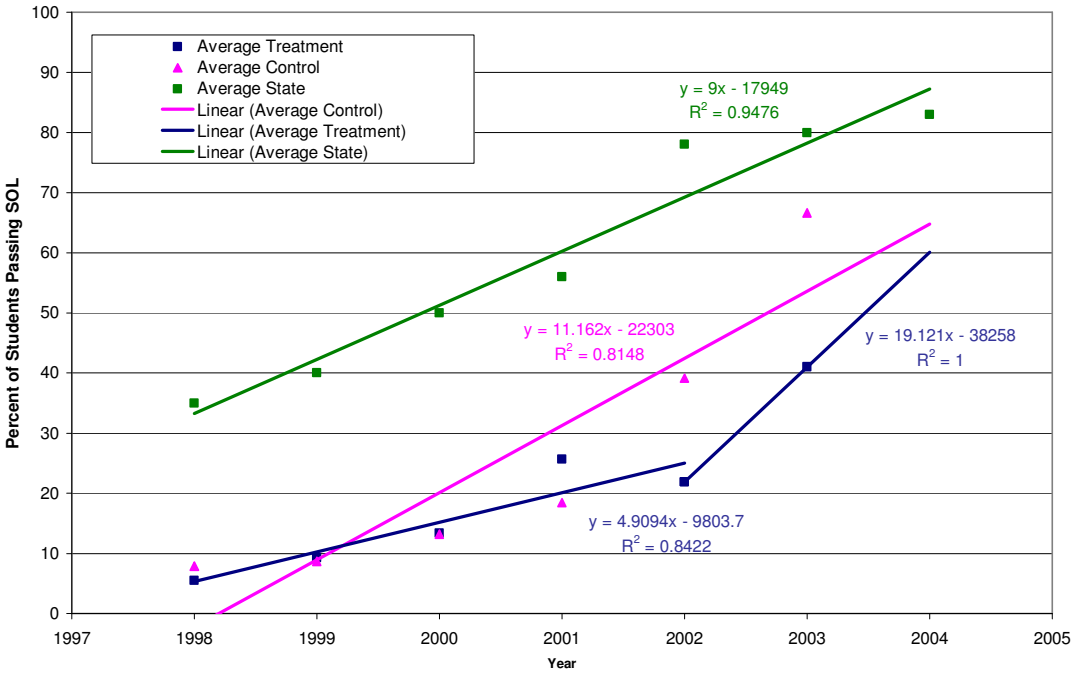
Eighth Grade English



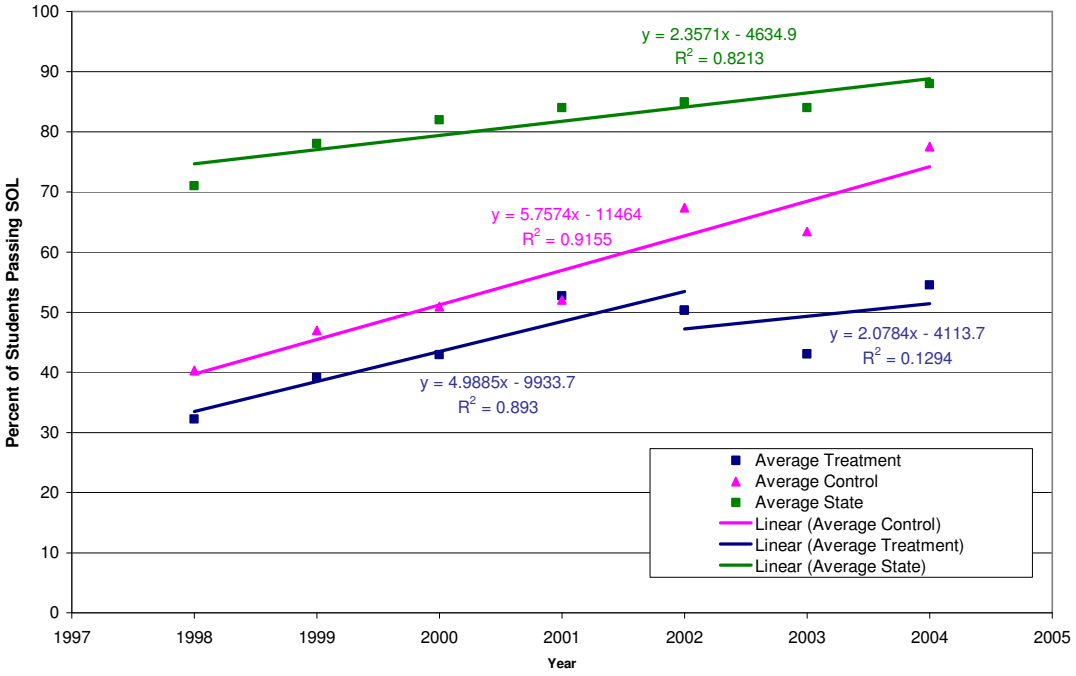
Eighth Grade Math



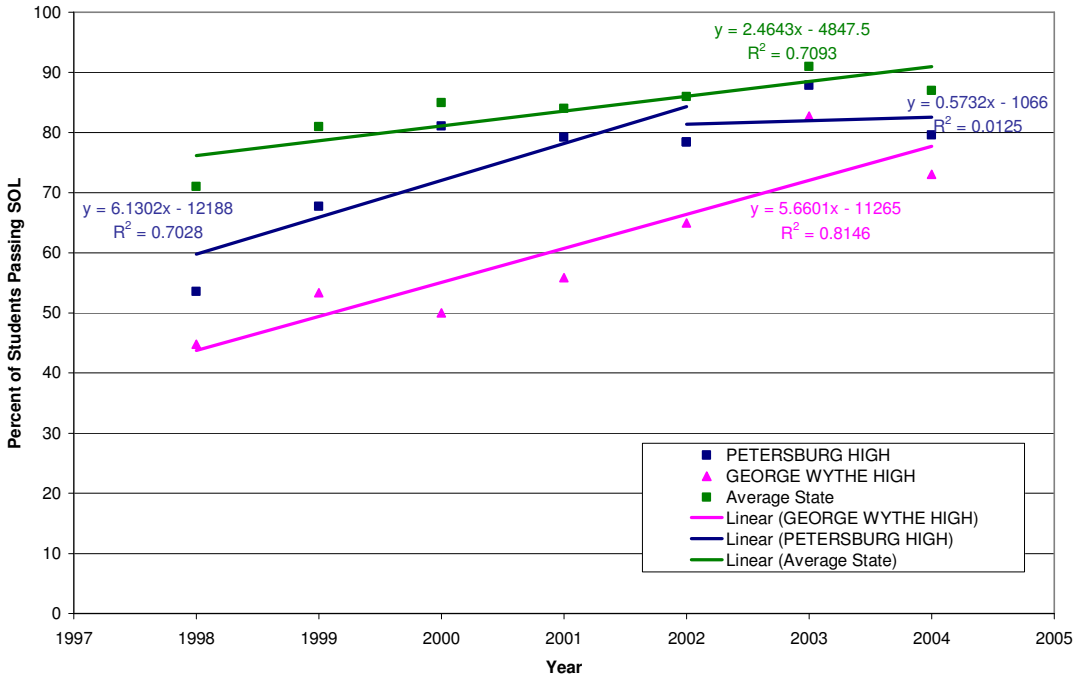
Eighth Grade History



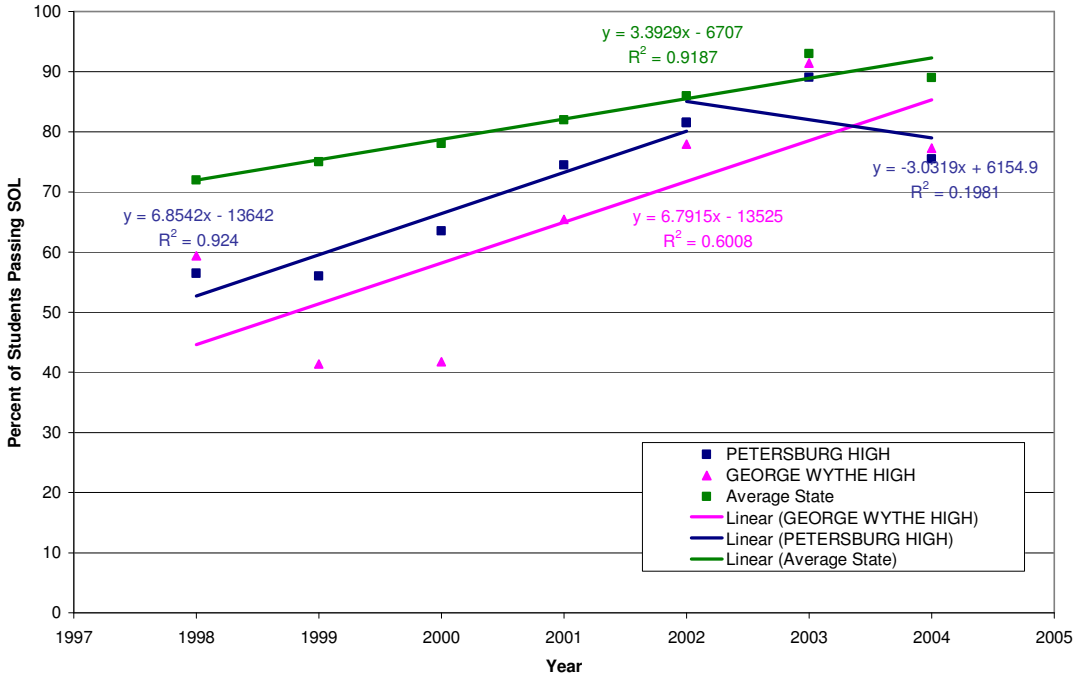
Eighth Grade Science



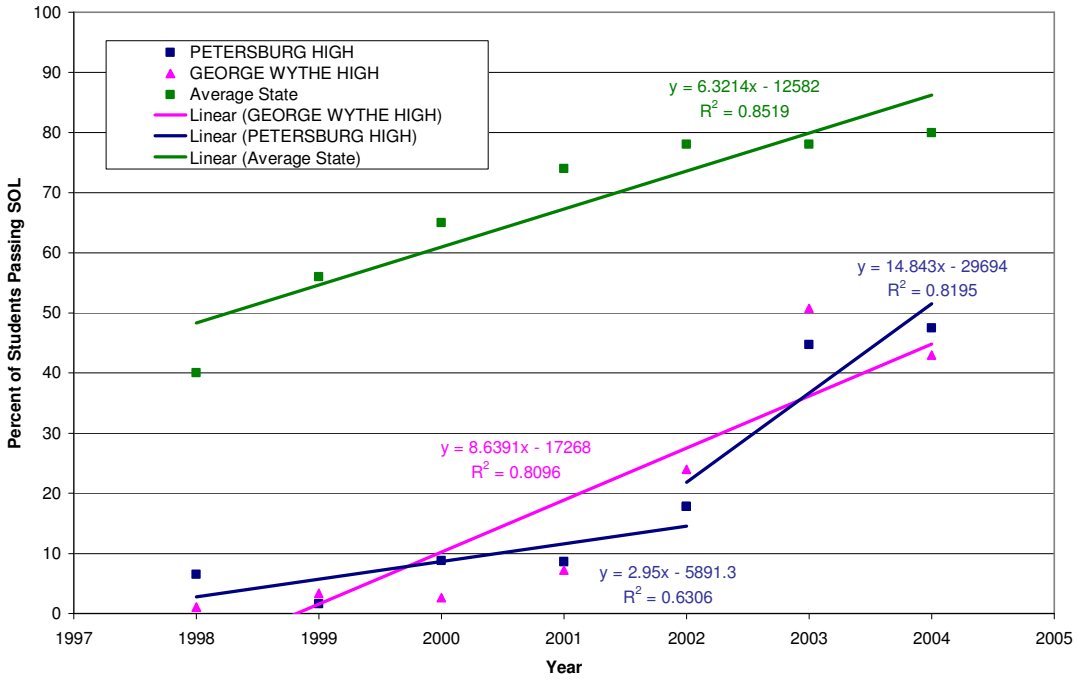
High School Writing



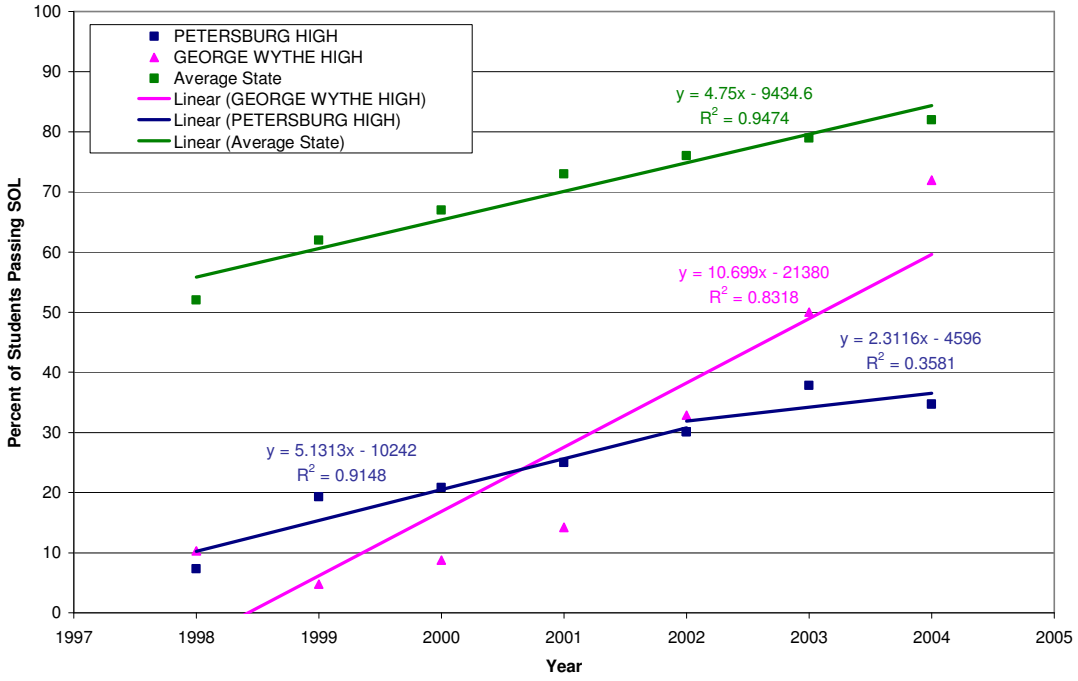
High School English



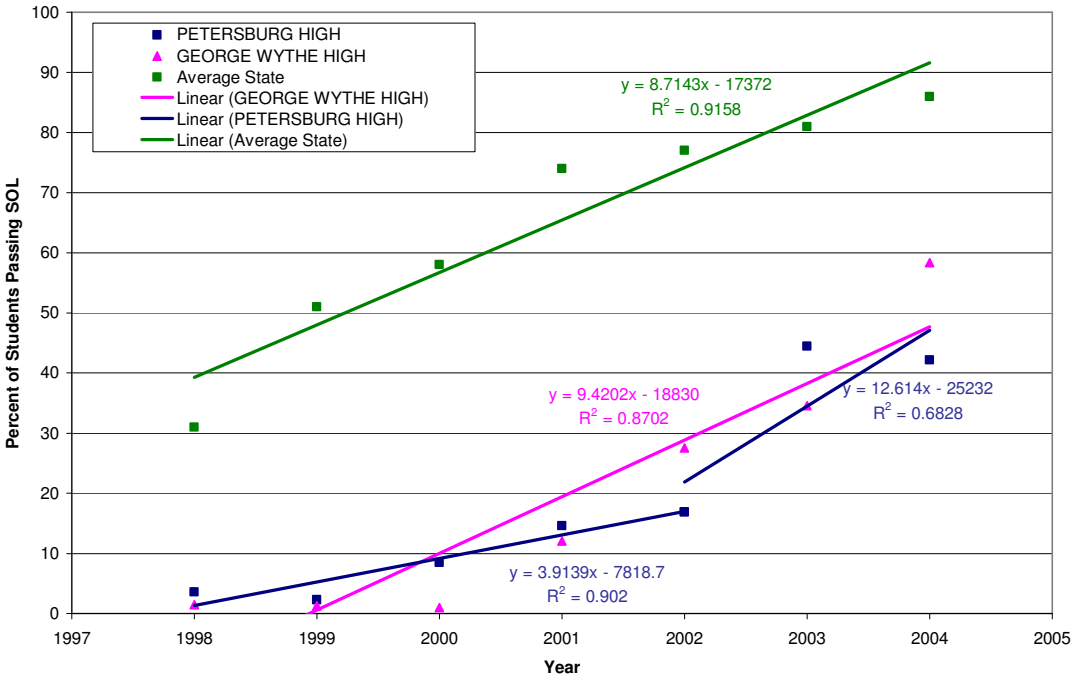
High School Algebra I



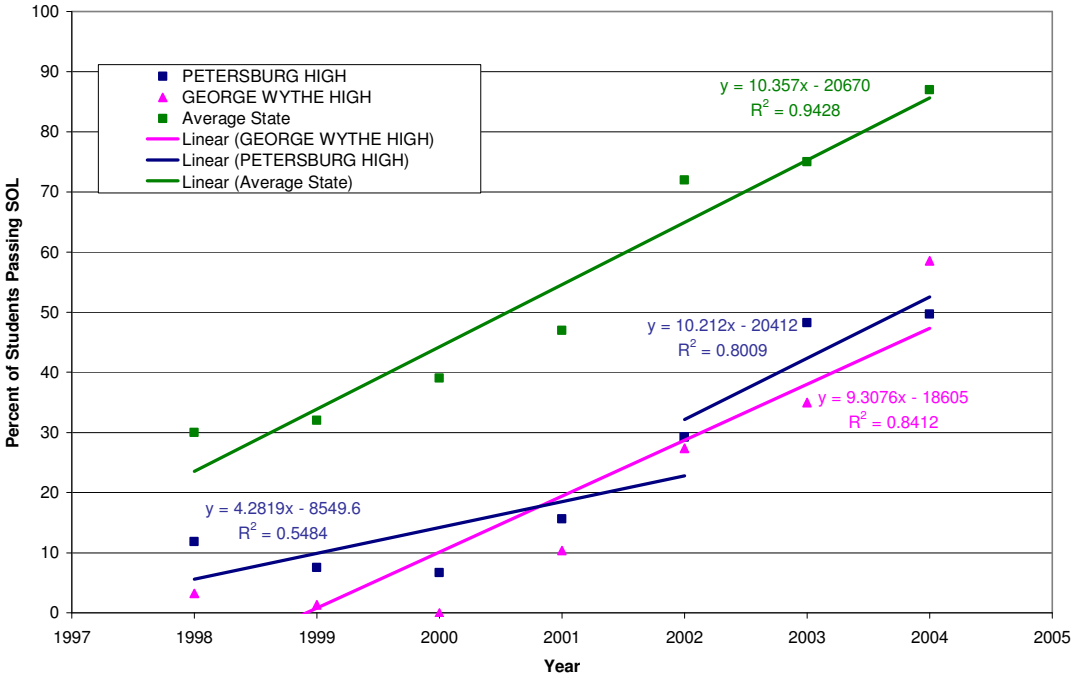
High School Geometry



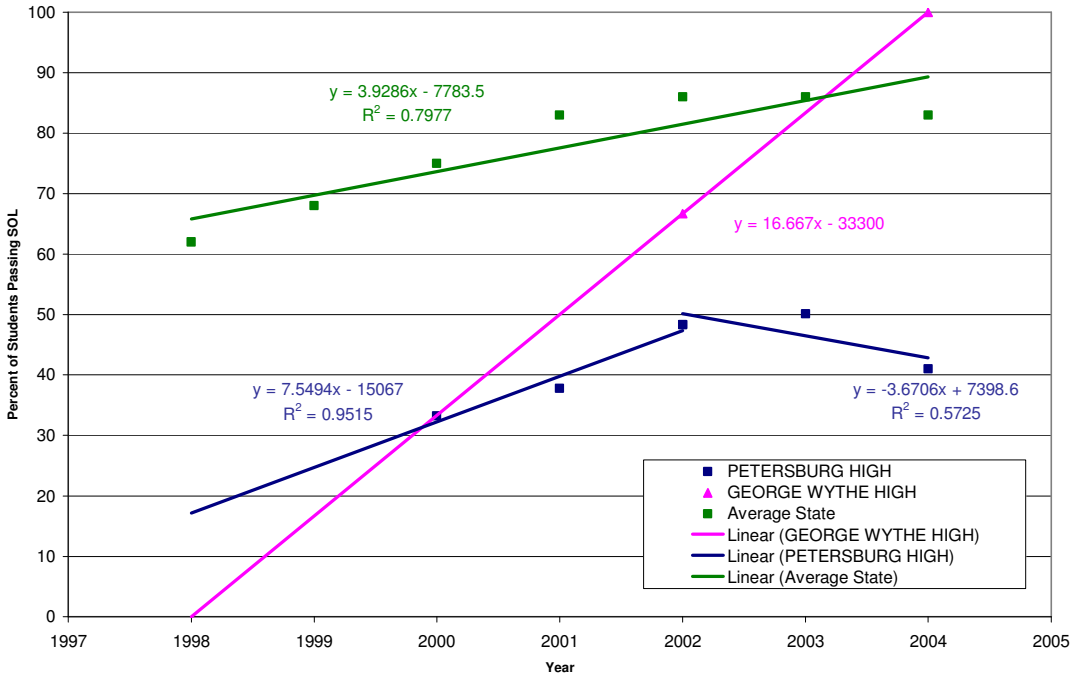
High School Algebra II



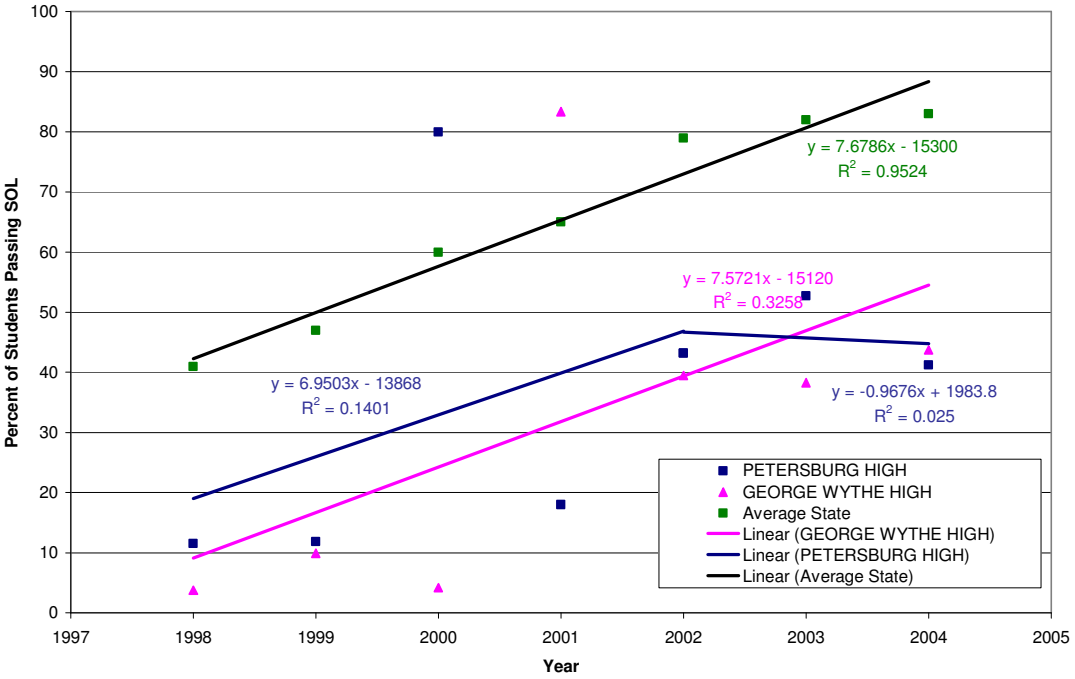
High School U.S. History



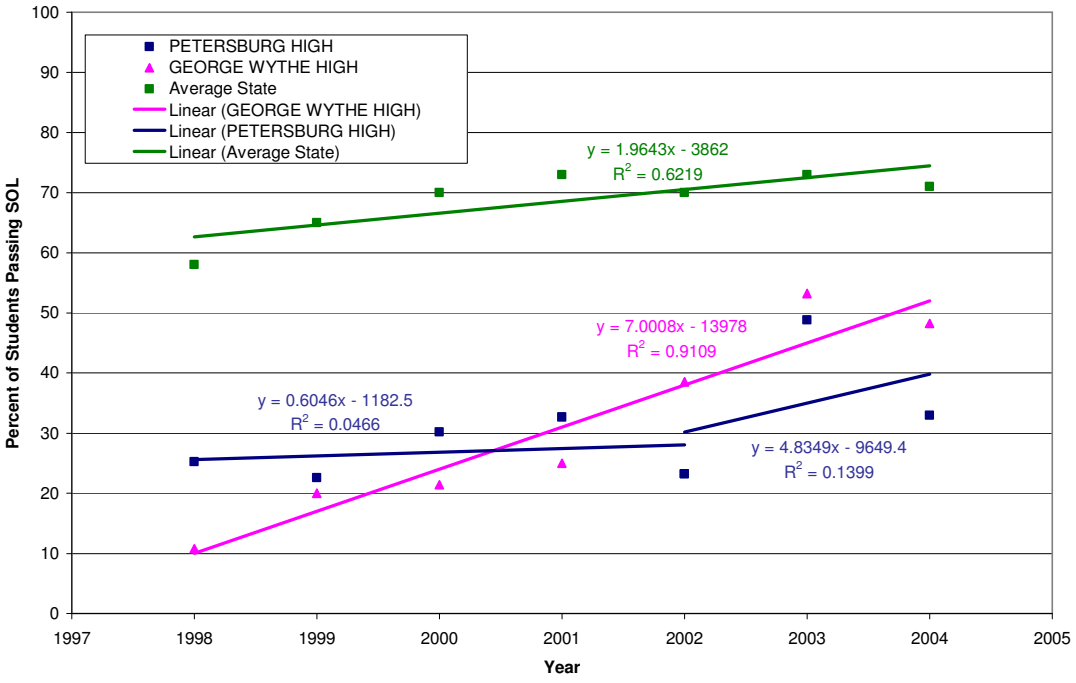
High School World History I



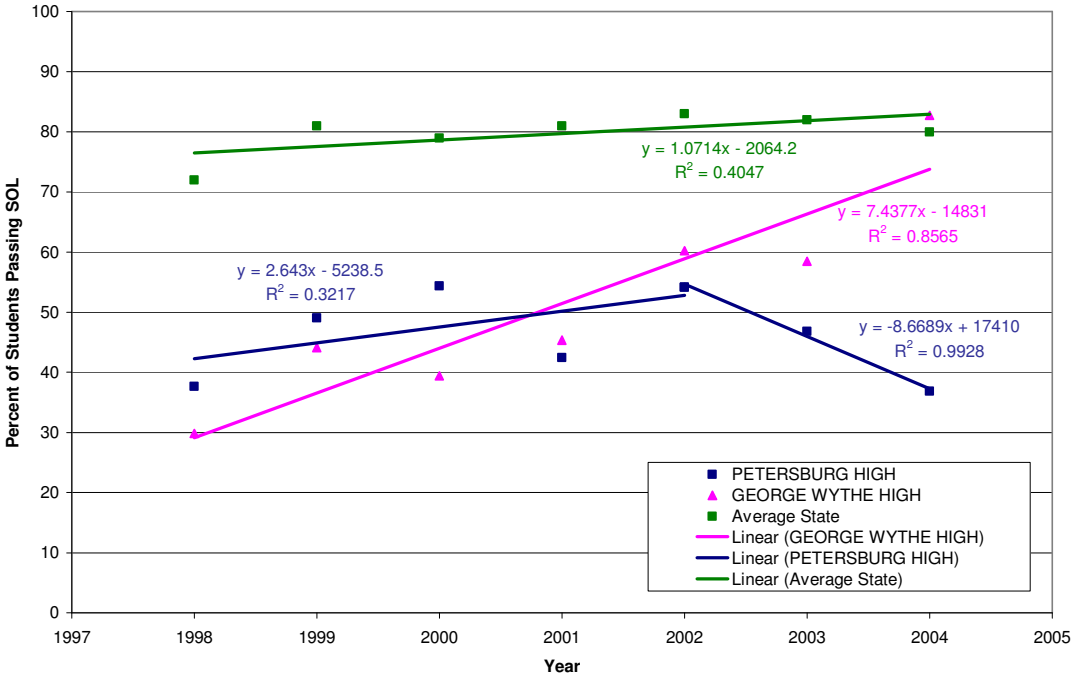
High School World History II



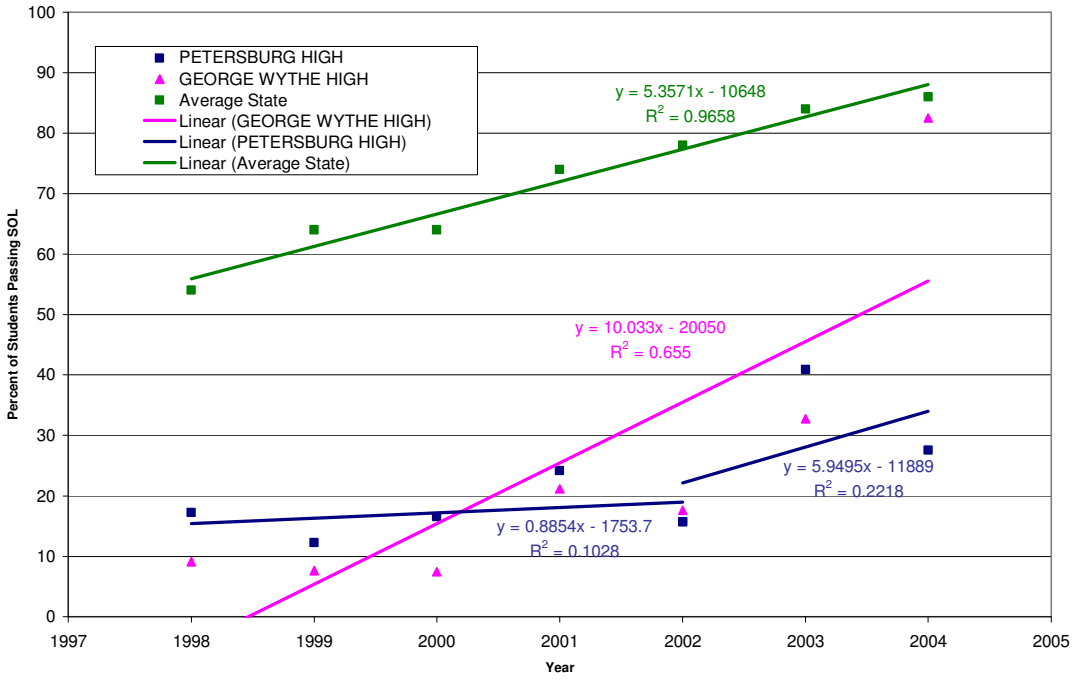
High School Earth Science



High School Biology



High School Chemistry



Appendix D—School Improvement Plan Content Indicators

School-Level Academic Review: Plan Content Indicators

Indicator Numbers Plan Content	Indicator Text	School A	School B	School C	School D	School E
SIP 1.1	Basing the three-year school improvement plan on the results of previous academic reviews, as required by the Standards of Accreditation	1	1	1	1	1
SIP 1.2	Developing the three-year school improvement plan with the assistance of parents and teachers, as required by the Standards of Accreditation	1	0	1	1	1
SIP 1.3	Using baseline data/measures relevant to areas for improvement planning	1	1	1	1	1
SIP 1.4	Establishing clear goals that relate to student achievement	1	1	1	1	1
SIP 1.5	Establishing yearly, measurable objectives or benchmarks that are linked to goals	1	1	1	1	1
SIP 1.6	Describing the strategies to be implemented and the specific action steps to be taken to meet each objective	1	1	1	1	1
SIP 1.7	Including data collection activities at regular, logical (not random) intervals throughout plan as part of strategies/action steps	1	1	1	1	1
SIP 1.8	Including a system of monitoring student progress at regular, logical (not random) intervals	1	1	1	1	1
SIP 1.9	Selecting achievement indicators that are appropriate to goals and objectives	1	1	1	1	1
SIP 1.10	Identifying sources of evidence that are appropriate to strategies/action steps	1	1	1	1	1
SIP 1.11	Identifying person(s) responsible for implementing strategies/action steps and collecting data/evidence	1	1	1	1	1
SIP 1.12	Establishing timelines over a three-year period and linking shorter time frames to specific action steps/strategies	1	1	1	1	1
SIP 1.13	Including all nine components required by Section 8VAC20-131-310.G of the Standards of Accreditation (Refer to TA Document in AR User's Handbook or SOA for list of components)	1	1	1	1	1

School-Level Academic Review: Plan Content Indicators

Indicator Numbers Plan Content	Indicator Text	School F	School G	School H	School I	School J
SIP 1.1	Basing the three-year school improvement plan on the results of previous academic reviews, as required by the Standards of Accreditation	1	1	1	1	1
SIP 1.2	Developing the three-year school improvement plan with the assistance of parents and teachers, as required by the Standards of Accreditation	1	1	1	1	1
SIP 1.3	Using baseline data/measures relevant to areas for improvement planning	1	1	1	1	1
SIP 1.4	Establishing clear goals that relate to student achievement	1	1	1	1	1
SIP 1.5	Establishing yearly, measurable objectives or benchmarks that are linked to goals	1	1	1	1	1
SIP 1.6	Describing the strategies to be implemented and the specific action steps to be taken to meet each objective	1	1	1	1	1
SIP 1.7	Including data collection activities at regular, logical (not random) intervals throughout plan as part of strategies/action steps	1	1	1	1	1
SIP 1.8	Including a system of monitoring student progress at regular, logical (not random) intervals	1	1	1	1	1
SIP 1.9	Selecting achievement indicators that are appropriate to goals and objectives	1	1	1	1	1
SIP 1.10	Identifying sources of evidence that are appropriate to strategies/action steps	1	1	1	1	1
SIP 1.11	Identifying person(s) responsible for implementing strategies/action steps and collecting data/evidence	1	1	1	1	1
SIP 1.12	Establishing timelines over a three-year period and linking shorter time frames to specific action steps/strategies	1	1	1	1	1
SIP 1.13	Including all nine components required by Section 8VAC20-131-310.G of the Standards of Accreditation (Refer to TA Document in AR User's Handbook or SOA for list of components)	1	1	1	1	1

School-Level Academic Review: Implementation Indicators

Indicator Numbers Implementation	Indicator Text	School A	School B	School C	School D	School E
SIP 2.1	Focusing implementation on improved student achievement	1	1	1	1	X
SIP 2.2	Implementing strategies and action steps in the manner described in plan	1	0	1	1	1
SIP 2.3	Documenting implementation of strategies/action steps	1	0	1	1	1
SIP 2.4	Collecting and compiling data/evidence of the degree to which strategies and action steps are implemented as described in the plan	1	0	1	1	1
SIP 2.5	Monitoring the efforts of staff when carrying out their responsibilities	1	0	1	1	1
SIP 2.6	Meeting established timelines for completing strategies/action steps and collecting data/evidence	1	0	1	1	X
SIP 2.7	Establishing procedures for macro-to-micro analysis of data	1	1	1	1	X

School-Level Academic Review: Implementation Indicators

Indicator Numbers Implementation	Indicator Text	School F	School G	School H	School I	School J
SIP 2.1	Focusing implementation on improved student achievement	1	1	1	1	1
SIP 2.2	Implementing strategies and action steps in the manner described in plan	1	1	1	1	0
SIP 2.3	Documenting implementation of strategies/action steps	1	1	1	1	0
SIP 2.4	Collecting and compiling data/evidence of the degree to which strategies and action steps are implemented as described in the plan	1	1	1	1	1
SIP 2.5	Monitoring the efforts of staff when carrying out their responsibilities	1	1	1	1	1
SIP 2.6	Meeting established timelines for completing strategies/action steps and collecting data/evidence	1	1	1	1	X
SIP 2.7	Establishing procedures for macro-to-micro analysis of data	1	1	1	1	1

School-Level Academic Review: Results Indicators

Indicator Numbers Results	Indicator Text	School A	School B	School C	School D	School E
SIP 3.1	Establishing a system for monitoring and adjusting the school's improvement plan	1	1	1	1	1
SIP 3.2	Analyzing data/evidence to determine the degree to which strategies/action steps are implemented as intended	1	X	1	1	1
SIP 3.3	Systematically monitoring student achievement at regular intervals throughout the year to determine effectiveness of improvement initiatives	1	1	1	1	1
SIP 3.4	Using data to determine the impact of improvement initiatives on student learning	1	X	1	1	1
SIP 3.5	Modifying goals and/or objectives based upon the analysis of data/evidence	1	X	1	1	1
SIP 3.6	Modifying less successful strategies and adding new strategies, as needed, to promote continued improvement	1	X	1	1	X
SIP 3.7	Reaching established student achievement benchmarks and/or objectives	1	X	1	1	X
SIP 3.8	Communicating the status of implementation and the results to stakeholders	1	1	1	1	1

School-Level Academic Review: Results Indicators

Indicator Numbers Results	Indicator Text	School F	School G	School H	School I	School J
SIP 3.1	Establishing a system for monitoring and adjusting the school's improvement plan	1	1	1	1	1
SIP 3.2	Analyzing data/evidence to determine the degree to which strategies/action steps are implemented as intended	1	1	1	1	1
SIP 3.3	Systematically monitoring student achievement at regular intervals throughout the year to determine effectiveness of improvement initiatives	1	1	1	1	1
SIP 3.4	Using data to determine the impact of improvement initiatives on student learning	1	1	1	1	1
SIP 3.5	Modifying goals and/or objectives based upon the analysis of data/evidence	1	1	1	1	1
SIP 3.6	Modifying less successful strategies and adding new strategies, as needed, to promote continued improvement	1	1	1	1	X
SIP 3.7	Reaching established student achievement benchmarks and/or objectives	1	1	X	1	1
SIP 3.8	Communicating the status of implementation and the results to stakeholders	1	1	1	1	1

School Improvement Plan: Jump-Start Strategies

Indicator Numbers Jump-start	Indicator Text	School A	School B	School C	School D	School E
JS 1	Aligning the written curriculum with the taught curriculum	1	1	1	1	1
JS 2	Aligning local and classroom assessments with the curriculum and continuously monitoring student progress	1	1	1	1	1
JS 3	Analyzing student achievement data, including data for groups such as minorities and special education students, to identify the most critical needs for which immediate, common achievement goals and strategies may be developed	1	0	1	1	1
JS 4	Putting structures in place to monitor both delivery of the instructional program and student progress toward meeting the achievement goals	1	1	1	1	1
JS 5	Providing additional learning time for students	1	0	1	1	1

School Improvement Plan: Jump-Start Strategies

Indicator Numbers JS	Indicator Text	School F	School G	School H	School I	School J
JS 1	Aligning the written curriculum with the taught curriculum	1	1	1	1	1
JS 2	Aligning local and classroom assessments with the curriculum and continuously monitoring student progress	1	1	1	1	1
JS 3	Analyzing student achievement data, including data for groups such as minorities and special education students, to identify the most critical needs for which immediate, common achievement goals and strategies may be developed	1	1	1	0	1
JS 4	Putting structures in place to monitor both delivery of the instructional program and student progress toward meeting the achievement goals	1	1	1	1	1
JS 5	Providing additional learning time for students	1	1	1	0	1

These tables present findings that show whether each school's SIP met the criteria associated with each indicator. A numerical value of 1 indicates that the SIP met a specified criterion; a value of 0 indicates that the SIP did not meet the specified criterion; and a value of X indicates that the SIP data were unavailable or, in a few cases, X indicates that not enough detail was provided to accurately evaluate the information.

In the majority of cases, each school's SIP met most of the criteria specified by the content plan, implementation, and results indicators listed in the rubric, as well as the jump-start strategies. For a few schools, however, caveats are offered for consideration regarding whether the school met or did not meet indicator criterion.

School B

School B shows compliance with 12 of the 13 plan content indicators, 2 of the 7 implementation indicators, 3 of the 8 results indicators, and 3 of the 5 jump-start strategies. Caveats regarding whether they fully met compliance criteria follow:

SIP 1.1—Value = 1
Although the school completed a SIP, it appears that a great deal of information is missing.

SIP 1.2—Value = 0
Nothing was checked.

SIP 1.3—Value = 1
The score was awarded on the assumption that these results were used to generate a SIP.

SIP 1.7—Value = 1
It is unclear whether these data are being collected.

SIP 1.11—Value = 1
Individuals have not been identified; however, broad categories of individuals have been identified (i.e., teachers).

SIP 2.2—Value = 0
Although action steps call for improvements, it is unknown whether School B followed through on the identified objectives.

SIP 2.3—Value = 0
Although action steps call for improvements, it is unknown whether School B followed through on the identified objectives.

SIP 2.4—Value = 0
Although action steps call for improvements, it is unknown whether School B followed through on the identified objectives.

SIP 2.5—Value = 0
Although action steps call for improvements, it is unknown whether School B followed through on the identified objectives.

SIP 2.6—Value = 0
Although action steps call for improvements, it is unknown whether School B followed through on the identified objectives.

SIP 3.2—Value = X
It does not appear that School B has collected the necessary data.

SIP 3.4—Value = X
This SIP calls for the use of data, but there is no evidence that the school has collected them.

SIP 3.5—Value = X
This SIP calls for the use of data, but there is no evidence that the school has collected them.

SIP 3.6—Value = X
This SIP calls for the use of data, but there is no evidence that the school has collected them.

SIP 3.7—Value = X
This SIP calls for the use of such data, but there is no evidence that the school has collected them.

JS 2—Value = 1
There is no evidence to document implementation of this strategy.

School E

School E shows compliance with all of the 13 plan content indicator areas, 4 of the 7 implementation indicator areas, 6 of the 8 results indicator areas, and all jump-start strategy areas. Caveats regarding whether they met full compliance are as follows:

SIP 2.1—Value = X
The SIP identifies the need to edit plans based on student achievement; however, it is unclear whether the data are currently being collected.

SIP 3.6—Value = X
Although there is evidence that strategies are being monitored, it is not clear what steps will be taken if strategies are not successful.

SIP 3.7—Value = X
There is not enough information to indicate whether individual student objectives are being met, but there are benchmark tests at specific intervals.

JS 1—Value = 1
The SIP indicates that School E is complying with this strategy; however, there are no data available for documentation.

JS 3—Value = 1
There is evidence that goals and strategies were developed for special education students, but there is no evidence that goals and strategies were developed for minority students.

School F

School F shows compliance with all of the 13 plan content indicator areas, all implementation indicator areas, all results indicator areas, and all jump-start strategy areas. A caveat regarding whether they fully met one indicator criterion follows:

SIP 1.11—Value = 1
School F has identified broad categories of individuals responsible for implementing the SIP.

School G

School G shows compliance with all of the 13 plan content indicator areas, all implementation indicator areas, all results indicator areas, and all jump-start strategy areas. Caveats regarding whether they met full indicator compliance are as follows:

SIP 2.3—Value = 1
Implementation is documented; however, data are incomplete.

SIP 2.4—Value = 1
Implementation is documented; however, data are incomplete.

SIP 2.6—Value = 1
Some deadlines are met; however, the majority of action steps do not have the data necessary to determine compliance.

SIP 3.2—Value = 1
Implementation is documented; however, data are incomplete.

SIP 3.7—Value = 1
Implementation is documented; however, data are incomplete.

School H

School H shows compliance with all of the 13 plan content indicator areas, the 7 implementation indicator areas, 7 of the 8 results indicator areas, and the 5 jump-start strategy areas. Caveats regarding whether they did or did not meet full indicator compliance are as follow:

SIP 2.6—Value = 1
There is documentation supporting compliance, although there are no specific data to back it up.

SIP 3.7—Value = X
There is not enough information to indicate whether individual student objectives are being met, but there are benchmark tests at specific intervals. The AR cites this as an area for improvement.

School J

School J shows compliance with all of the 13 plan content indicator areas, 4 of the 7 implementation indicator areas, 7 of the 8 results indicator areas, and all jump-start strategy areas. Caveats regarding whether they met full compliance follow:

SIP 2.2—Value = 0
According to the AR, the strategies and action steps are not being implemented as outlined in the SIP.

SIP 2.3—Value = 0
The SIP does not include any comments in the October 1 status column.

Appendix E

School-Level Descriptive Statistics from the Continuous School Improvement Questionnaire (CSIQ)

Descriptive Statistics for CSIQ

	Mean				Median				Standard Deviation			
	2002	2003	2004	2005	2002	2003	2004	2005	2002	2003	2004	2005
School A	**n=26**	**n=27**	**n=23**	**n=32**								
Learning culture	45.8	46.7	43.9	47.4	49.0	46.0	45.0	49.5	9.3	7.1	10.0	9.1
School/family/community connections	43.3	44.6	44.9	44.6	47.0	47.0	47.0	45.5	10.1	8.4	9.9	9.0
Sharing leadership	46.3	42.7	43.8	44.2	47.0	45.5	43.5	44.0	7.8	10.6	9.3	8.8
Shared goals for learning	44.3	46.9	47.6	46.0	46.5	47.0	49.0	47.0	10.2	5.6	8.2	8.8
Purposeful student assessment	44.7	44.7	46.7	46.5	45.0	43.0	46.5	49.0	9.1	6.9	8.8	9.3
Effective teaching	47.1	47.6	47.3	46.5	49.0	49.0	47.0	48.0	8.7	7.7	10.1	8.4
School B	**n=22**	**n=17**	**n=16**	**n=17**								
Learning culture	47.6	51.6	49.4	51.1	54.0	54.0	49.0	55.0	7.5	7.3	5.1	8.4
School/family/community connections	42.5	47.8	49.4	51.8	45.0	51.0	49.0	52.5	11.4	11.9	5.7	6.0
Sharing leadership	34.1	45.8	43.8	49.1	31.0	51.0	48.5	49.0	14.7	13.6	11.7	6.4
Shared goals for learning	41.8	48.5	50.0	50.4	41.0	51.0	51.0	50.0	12.3	8.6	5.5	5.9
Purposeful student assessment	42.9	47.8	51.0	51.0	42.0	50.5	51.5	50.0	10.8	10.6	5.2	5.4
Effective teaching	49.3	52.7	51.0	50.9	49.0	55.5	51.0	50.0	8.0	7.9	6.5	8.0
School C	**n=22**	**n=25**	**n=16**	**n=12**								
Learning culture	44.8	46.2	50.3	49.6	46.5	46.5	50.5	48.0	7.8	4.6	5.5	6.9
School/family/community connections	39.4	41.6	46.4	43.7	40.0	41.0	47.0	43.0	9.2	8.1	9.5	11.0
Sharing leadership	39.7	40.8	43.9	44.4	40.0	40.0	43.5	46.0	9.7	9.0	10.4	13.9
Shared goals for learning	43.2	44.7	51.9	49.1	44.0	46.0	53.0	47.5	10.4	7.0	5.9	8.3
Purposeful student assessment	40.1	42.4	50.9	48.5	41.0	41.0	51.0	46.0	9.1	6.2	6.9	7.8
Effective teaching	44.9	45.4	50.3	51.7	46.0	46.0	48.5	52.0	8.9	4.9	5.2	8.7
School D	**n=34**	**n=31**	**n=22**	**n=29**								
Learning culture	42.0	49.5	46.6	47.1	44.0	51.5	48.0	47.0	9.0	8.1	12.5	6.7
School/family/community connections	40.8	48.8	45.8	40.4	43.0	52.0	50.0	41.0	9.8	8.9	12.3	7.4
Sharing leadership	37.3	46.8	41.7	40.7	37.0	49.0	46.5	44.0	14.3	12.2	14.1	8.3
Shared goals for learning	39.8	48.8	46.9	44.4	42.0	50.0	50.0	44.5	10.7	8.8	11.2	7.2
Purposeful student assessment	41.3	49.4	47.4	44.1	42.5	52.0	50.5	45.5	10.0	8.6	11.3	7.7
Effective teaching	44.6	52.5	48.4	47.9	45.0	54.0	52.0	49.0	9.4	7.0	11.9	7.3
School E	**n=24**	**n=24**	**n=19**	**n=19**								
Learning culture	39.0	44.5	40.8	46.8	39.0	45.0	42.5	47.0	8.7	9.0	10.4	8.5
School/family/community connections	37.1	41.6	39.3	40.5	37.5	44.0	41.5	42.0	10.6	10.0	11.9	12.5

	Mean				Median				Standard Deviation			
	2002	2003	2004	2005	2002	2003	2004	2005	2002	2003	2004	2005
Sharing leadership	32.1	40.0	36.2	39.7	33.5	38.0	40.0	40.0	11.9	11.2	14.2	12.3
Shared goals for learning	37.1	42.5	39.4	45.3	38.5	42.0	45.0	46.0	10.6	9.8	12.9	9.4
Purposeful student assessment	39.4	43.5	44.9	44.9	42.0	44.5	46.0	44.0	11.0	10.2	10.8	10.0
Effective teaching	40.7	45.4	44.9	48.2	40.0	47.5	47.0	48.0	10.0	10.6	11.3	8.6
School F	**n=33**	**n=38**	**n=28**	**n=32**								
Learning culture	44.5	42.9	47.3	44.2	46.0	43.0	47.5	45.2	8.7	8.6	7.9	9.5
School/family/community connections	40.8	43.9	45.1	42.8	40.0	44.0	44.0	42.0	9.5	8.5	8.2	9.2
Sharing leadership	37.5	40.4	45.7	41.8	37.0	43.0	47.0	44.0	10.0	11.4	9.1	12.7
Shared goals for learning	40.9	41.5	47.6	44.7	42.0	41.0	47.0	44.0	8.4	9.8	7.9	9.9
Purposeful student assessment	40.9	43.6	49.1	44.3	41.0	45.0	48.0	44.5	10.0	9.4	7.5	9.5
Effective teaching	45.9	43.8	47.8	43.8	47.0	44.5	47.0	45.0	7.5	9.6	8.3	8.8
School G	**n=34**	**n=20**	**n=22**	**n=22**								
Learning culture	45.5	50.2	49.6	43.6	47.0	51.0	50.0	42.0	8.7	7.6	5.4	8.3
School/family/community connections	43.8	50.4	46.4	41.0	44.5	53.0	49.5	41.0	8.5	8.0	7.0	10.5
Sharing leadership	42.5	50.2	39.9	35.9	44.0	51.0	41.0	32.0	8.4	7.3	11.1	12.7
Shared goals for learning	44.3	48.8	49.7	43.0	45.0	51.5	50.0	40.0	5.9	7.6	4.9	10.0
Purposeful student assessment	44.3	48.1	49.2	43.9	47.0	50.0	50.0	43.0	9.1	9.0	5.8	11.1
Effective teaching	44.8	48.9	51.6	43.3	45.5	50.0	50.0	41.5	8.7	7.9	4.5	9.8
School H	**n=27**	**n=0**	**n=25**	**n=26**								
Learning culture	40.0		48.5	49.8	41.0		51.0	49.5	10.5		7.6	6.7
School/family/community connections	34.6		45.6	48.5	34.0		44.0	49.0	11.5		7.5	7.4
Sharing leadership	35.6		45.0	49.0	36.0		48.0	49.5	9.4		8.6	8.3
Shared goals for learning	35.4		47.5	48.6	35.0		49.0	50.0	10.5		7.3	7.2
Purposeful student assessment	34.5		47.0	48.5	33.0		48.5	49.5	9.4		7.9	7.6
Effective teaching	40.6		47.4	48.9	41.0		50.0	49.0	11.3		9.7	7.3
School I	**n=39**	**n=32**	**n=36**	**n=38**								
Learning culture	46.4	40.5	44.8	45.6	49.5	42.0	45.0	45.0	8.7	10.6	9.5	7.6
School/family/community connections	40.3	37.7	40.9	40.1	42.0	37.0	41.5	38.5	11.2	12.5	10.4	8.0
Sharing leadership	41.6	38.4	33.3	42.0	43.5	40.5	35.5	42.0	10.7	11.7	14.9	8.0
Shared goals for learning	41.6	40.7	43.3	41.9	42.0	41.5	44.0	42.0	9.0	10.7	9.1	7.8
Purposeful student assessment	42.3	40.1	45.4	44.0	44.5	41.0	46.0	44.5	10.1	11.2	7.9	7.0
Effective teaching	45.5	43.0	45.6	44.0	47.0	44.0	47.0	45.0	9.1	10.9	8.7	6.9

	Mean				Median				Standard Deviation			
	2002	2003	2004	2005	2002	2003	2004	2005	2002	2003	2004	2005
School J	**n=59**	**n=82**	**n=38**	**n=54**								
Learning culture	38.6	42.3	41.5	41.1	38.0	42.0	45.0	41.0	11.3	9.7	11.2	8.8
School/family/community connections	33.0	38.0	36.5	37.5	32.5	37.0	37.0	36.0	11.7	11.2	12.8	9.8
Sharing leadership	31.4	38.2	38.4	37.0	31.0	38.0	41.0	36.5	14.4	12.7	13.0	11.4
Shared goals for learning	35.1	40.5	40.8	38.7	33.5	41.0	46.0	38.0	12.0	10.7	12.4	9.4
Purposeful student assessment	34.3	40.0	40.7	38.6	32.5	41.0	42.0	39.0	12.4	11.1	11.8	9.8
Effective teaching	40.2	43.1	41.6	40.5	40.5	44.0	43.5	40.0	11.3	9.8	11.3	8.7
School K	**n=0**	**n=0**	**n=8**	**n=4**								
Learning culture			46.9	39.3			48.5	41.0			5.5	10.1
School/family/community connections			39.6	36.0			40.5	37.0			8.1	2.6
Sharing leadership			41.6	30.0			44.0	27.0			7.6	5.5
Shared goals for learning			40.8	37.5			39.0	37.0			8.7	1.7
Purposeful student assessment			46.1	36.5			46.5	35.5			5.1	3.1
Effective teaching			51.6	44.5			51.0	41.0			3.4	10.4
School L	**n=0**	**n=7**	**n=0**	**n=5**								
Learning culture		43.3		45.6		46.0		44.0		9.8		7.7
School/family/community connections		33.9		44.2		34.0		45.0		11.6		8.8
Sharing leadership		44.4		41.8		49.0		41.0		14.3		8.3
Shared goals for learning		44.3		41.6		47.0		40.0		10.1		5.3
Purposeful student assessment		33.0		45.0		35.0		44.5		7.3		8.8
Effective teaching		45.1		44.4		51.0		44.0		14.7		10.2

The above table shows the descriptive statistics on the six CSIQ scales for the Petersburg City Schools professional staff who completed the survey instrument in 2002 (N = 368), 2003 (N = 319), 2004 (N = 268), and 2005 (N = 290). Of the elementary schools, the learning culture scale mean scores in 2005 ranged from 43.6 (School G) to 51.1 (School B). Schools A, B, D, and E all showed mean scores that are trending upward, with Schools C, F, and G showing a drop in mean scores from those in 2004 and School G experiencing the largest drop (6 mean points). Schools B continues to show an upward trend in mean scores on the shared goals for learning in 2004 (50.0) to 2005 (50.4). However, all other elementary schools showed a decline in mean scores from 2004 to 2005 on the shared goals for learning scale. While Schools B, C, and G each show highest mean scores of all elementary schools on the purposeful student assessment scales during 2004 (51.0, 50.9, and 49.2, respectively), these gains did not hold for either

School C or G during 2005 and School B remained the same. The effective teaching scale showed a similar pattern to that of the purposeful student assessment scale. That is, a steady upward trend in mean scores from 2004 to 2005 continued for Schools C (51.7) and E (48.2), but declined along the effective teaching scale for the other five elementary schools. Of the elementary schools, Schools F and G showed a mean score decrease from 2004 to 2005 for each of the six scales, while School B showed a mean score increase on each of the six scales measured.

Middle school H showed mean score increases along each of the six scales from 2004 to 2005, whereas middle school I showed an increase in mean scores for only two scales—learning culture and sharing leadership—with the other 4 scales showing a decrease in mean scores from 2004 to 2005.

School J showed a small increase in mean score from 2004 to 2005 on the school/family/community connection scale, but experienced mean score decreases along the other five scales from 2004 to 2005.

Appendix F

School-Level Descriptive Statistics from the Measure of School Capacity for Improvement (MSCI)

Descriptive Statistics for MSCI Survey

	Mean			Median			Standard Deviation		
	2003	**2004**	**2005**	**2003**	**2004**	**2005**	**2003**	**2004**	**2005**
School A	**n=26**	**n=25**	**n=32**						
Collective teacher efficacy	4.7	4.7	4.7	4.7	4.9	4.8	0.8	0.7	0.8
Peer reviewed practice	4.4	4.1	4.5	4.5	4.0	4.5	0.8	0.9	0.7
Program coherence	4.6	4.3	4.4	4.6	4.3	4.4	0.8	0.8	0.8
Technical resources	4.3	4.2	4.4	4.3	4.3	4.4	1.0	0.9	0.7
Anti-discriminatory teaching	5.3	5.0	5.1	5.3	5.0	5.2	0.6	0.8	0.7
Responsive pedagogy	4.9	4.8	4.9	4.9	4.8	5.0	0.6	0.8	0.8
Differentiated instruction	4.8	4.9	4.8	4.8	5.0	4.9	0.8	0.8	0.8
Student performance expectations	4.8	4.8	4.9	4.7	4.8	4.9	0.8	0.8	0.8
School B	**n=16**	**n=16**	**n=17**						
Collective teacher efficacy	5.0	4.9	5.2	5.0	5.0	5.4	0.7	0.5	0.7
Peer reviewed practice	4.4	4.3	4.5	4.5	4.5	4.9	1.2	0.9	1.1
Program coherence	4.6	4.5	4.7	4.8	4.6	4.8	1.1	0.7	0.5
Technical resources	4.3	4.3	4.5	4.5	4.2	4.7	1.0	0.5	0.9
Anti-discriminatory teaching	5.1	5.2	5.4	5.6	5.2	5.6	1.1	0.6	0.9
Responsive pedagogy	4.8	5.1	5.1	5.2	5.1	5.3	1.2	0.4	0.7
Differentiated instruction	4.8	5.1	5.1	5.3	5.0	5.1	1.0	0.8	0.9
Student performance expectations	5.1	5.1	5.3	5.2	5.4	5.3	0.8	0.8	0.8
School C	**n=27**	**n=17**	**n=12**						
Collective teacher efficacy	4.7	4.9	5.0	4.7	5.0	5.3	0.7	0.6	0.7
Peer reviewed practice	4.5	4.4	4.5	4.5	4.6	4.6	0.8	0.9	0.8
Program coherence	4.7	4.5	4.5	4.7	4.3	4.6	0.5	0.8	1.0
Technical resources	4.0	4.0	4.3	4.1	4.0	4.9	0.8	0.8	1.2
Anti-discriminatory teaching	5.1	5.2	5.3	5.3	5.5	5.4	0.8	0.6	0.5
Responsive pedagogy	4.9	4.8	4.9	4.8	5.0	5.1	0.6	0.7	0.6
Differentiated instruction	4.8	5.0	5.3	4.9	4.9	5.3	0.8	0.6	0.6
Student performance expectations	4.8	5.1	5.0	4.9	5.1	4.9	0.9	0.6	0.0
School D	**n=30**	**n=26**	**n=30**						
Collective teacher efficacy	5.0	4.7	4.8	5.1	4.9	4.9	0.6	0.9	0.7
Peer reviewed practice	4.6	4.1	4.3	4.8	4.1	4.5	0.9	1.3	1.3
Program coherence	4.8	4.3	4.3	5.1	4.5	4.4	0.9	0.8	0.9
Technical resources	3.7	3.9	3.7	3.8	4.1	3.9	0.9	1.1	1.3
Anti-discriminatory teaching	5.4	5.0	5.1	5.6	5.4	5.4	0.7	1.2	0.8
Responsive pedagogy	5.1	4.9	4.9	5.3	5.2	5.1	0.7	0.9	0.7
Differentiated instruction	5.1	4.7	5.0	5.1	4.9	5.0	0.8	1.0	0.7
Student performance expectations	5.1	4.8	5.2	5.3	5.1	5.1	0.7	1.0	0.6

	Mean			Median			Standard Deviation		
	2003	**2004**	**2005**	**2003**	**2004**	**2005**	**2003**	**2004**	**2005**
School E	**n=25**	**n=19**	**n=19**						
Collective teacher efficacy	4.5	4.3	4.7	4.3	4.5	4.6	0.9	1.0	0.7
Peer reviewed practice	4.2	4.2	4.3	4.5	4.5	4.0	1.0	1.1	1.0
Program coherence	4.4	3.8	4.4	4.5	3.9	4.4	0.8	0.9	0.9
Technical resources	3.7	3.5	3.9	3.9	3.6	3.9	1.1	0.7	0.9
Anti-discriminatory teaching	4.8	4.5	4.9	4.7	4.5	4.9	0.9	0.9	0.7
Responsive pedagogy	4.6	4.3	4.6	4.7	4.1	4.6	0.9	0.8	0.6
Differentiated instruction	4.5	4.5	4.8	4.5	4.6	4.5	1.2	1.1	0.8
Student performance expectations	4.6	4.3	4.7	4.5	4.5	4.5	1.1	1.1	0.8
School F	**n=41**	**n=29**	**n=32**						
Collective teacher efficacy	4.5	4.4	4.4	4.5	4.4	4.6	0.8	0.9	1.0
Peer reviewed practice	4.1	4.3	4.1	4.3	4.5	4.0	1.0	1.1	1.1
Program coherence	4.3	4.0	4.0	4.3	4.1	4.1	0.7	0.7	0.9
Technical resources	3.8	3.8	3.8	3.9	3.7	4.0	0.9	1.1	1.0
Anti-discriminatory teaching	5.0	5.1	4.6	5.3	5.3	4.8	0.9	0.9	0.9
Responsive pedagogy	4.8	4.8	4.3	5.0	4.9	4.3	0.8	0.9	1.0
Differentiated instruction	4.5	4.5	4.2	4.5	4.6	4.4	0.9	1.0	1.1
Student performance expectations	4.8	4.4	4.5	4.7	4.5	4.7	0.8	0.9	1.0
School G	**n=21**	**n=24**	**n=22**						
Collective teacher efficacy	4.8	4.9	4.3	4.9	4.9	4.3	0.8	0.5	0.9
Peer reviewed practice	4.7	4.7	4.0	4.5	4.7	3.9	0.8	0.7	1.0
Program coherence	4.9	4.5	4.0	5.3	4.4	4.0	0.7	0.6	0.9
Technical resources	4.6	4.2	3.9	4.5	4.3	3.7	0.9	0.9	1.1
Anti-discriminatory teaching	5.2	5.3	4.9	5.4	5.3	4.8	0.7	0.6	0.7
Responsive pedagogy	5.0	5.0	4.4	4.7	4.9	4.4	0.7	0.6	0.9
Differentiated instruction	4.8	5.1	4.5	4.9	5.1	4.6	0.8	0.6	1.0
Student performance expectations	4.9	5.1	4.3	5.1	5.4	4.4	0.9	0.6	1.1
School H	**n=0**	**n=34**	**n=24**						
Collective teacher efficacy		4.5	5.1		4.6	5.1		1.1	0.6
Peer reviewed practice		4.5	4.9		4.7	4.9		1.0	0.7
Program coherence		4.4	4.9		4.3	4.9		1.1	0.7
Technical resources		3.7	4.7		3.7	4.8		1.1	0.8
Anti-discriminatory teaching		5.0	5.1		5.1	5.0		1.0	0.5
Responsive pedagogy		4.6	5.0		4.8	5.0		0.9	0.5
Differentiated instruction		4.6	5.1		4.9	5.0		1.1	0.7
Student performance expectations		4.4	5.1		4.5	5.0		1.1	0.7

	Mean			Median			Standard Deviation		
	2003	**2004**	**2005**	**2003**	**2004**	**2005**	**2003**	**2004**	**2005**
School I	**n=29**	**n=44**	**n=40**						
Collective teacher efficacy	4.3	4.1	4.2	4.5	4.2	4.1	1.0	0.9	0.8
Peer reviewed practice	4.2	4.1	4.0	4.3	4.3	4.0	1.1	1.1	1.0
Program coherence	4.2	4.0	4.0	4.5	4.1	3.9	1.1	0.9	0.8
Technical resources	3.8	3.8	3.8	3.9	4.1	3.9	1.0	1.1	1.0
Anti-discriminatory teaching	4.8	4.8	4.5	5.1	4.8	4.7	1.0	0.9	0.8
Responsive pedagogy	4.7	4.5	4.4	4.7	4.6	4.4	1.0	0.9	0.6
Differentiated instruction	4.3	4.3	4.3	4.5	4.3	4.3	1.1	0.9	0.7
Student performance expectations	4.3	4.2	4.2	4.3	4.3	4.0	1.2	1.0	0.9
School J	**n=90**	**n=41**	**n=57**						
Collective teacher efficacy	4.2	3.9	4.1	4.3	4.0	4.1	0.9	1.0	0.8
Peer reviewed practice	4.2	3.9	4.1	4.1	4.0	4.4	0.9	1.0	1.1
Program coherence	4.1	3.4	3.7	4.2	3.8	3.6	0.8	0.9	0.9
Technical resources	3.7	3.0	3.6	3.7	3.3	3.6	0.9	1.0	1.0
Anti-discriminatory teaching	4.8	4.4	4.6	4.8	4.9	4.6	0.8	1.1	0.7
Responsive pedagogy	4.4	4.1	4.4	4.5	4.5	4.4	0.8	1.1	0.8
Differentiated instruction	4.2	3.7	4.2	4.3	3.8	4.0	1.0	1.1	0.9
Student performance expectations	4.3	4.1	4.1	4.5	3.9	4.2	1.0	1.1	1.0
School K	**n=0**	**n=7**	**n=4**						
Collective teacher efficacy		4.6	3.9		4.8	4.2		0.5	0.6
Peer reviewed practice		4.1	3.7		4.0	3.4		0.7	0.6
Program coherence		3.2	3.6		3.1	3.6		0.7	0.9
Technical resources		3.1	3.2		3.0	3.2		0.4	1.0
Anti-discriminatory teaching		5.1	5.2		5.0	5.2		0.4	0.8
Responsive pedagogy		4.8	4.3		4.8	4.4		0.5	0.7
Differentiated instruction		4.8	3.9		4.9	3.9		0.6	0.9
Student performance expectations		4.7	4.0		4.9	4.1		0.7	0.7
School L	**n=7**	**n=0**	**n=5**						
Collective teacher efficacy	3.6		4.5	3.6		4.5	0.9		0.7
Peer reviewed practice	3.7		4.3	3.2		4.3	1.0		1.0
Program coherence	3.6		4.3	3.9		3.9	0.5		1.0
Technical resources	2.8		4.1	2.8		4.0	0.7		1.1
Anti-discriminatory teaching	4.8		5.2	4.7		4.8	0.8		0.7
Responsive pedagogy	4.6		4.7	5.3		4.5	1.2		0.6
Differentiated instruction	3.9		4.6	4.1		4.4	1.0		0.5
Student performance expectations	3.8		4.4	3.8		4.3	1.3		0.9

The above table shows the descriptive statistics on the eight subscales of the MSCI survey for 313 Petersburg professional staff who completed the MSCI survey instrument in 2003, the 282 who completed the instrument in 2004, and the 294 who completed the instrument in 2005. Reviewing the first improvement year (2003) with the second improvement year (2004) mean comparisons, two of the schools (B and G) showed increasing mean scores on three of the eight MSCI subscales, albeit each school did not increase on the same group of subscales. Schools B, C, F, and G improved on the anti-discriminatory teaching and Schools A, B, C, G, and J improved on differentiated instruction scales. School B also had an improved mean score on the responsive pedagogy scale. Schools C showed improved mean scores on collective teacher efficacy and School G showed improved mean scores on both collective teacher efficacy and student performance.

Mean comparisons between the first improvement year (2003) and the third improvement year (2005) show a number of changes. Most notably, School B had increasing mean scores on all eight MSCI subscales and School E showed increasing mean scores on six of the eight subscales with the mean scores on the other two subscales remaining equivalent. Schools A and C both showed increasing mean scores on 3 and 5 subscales, respectively, while also showing equivalent mean score comparisons on 3 and 2 subscales, respectively. The foremost consistent mean score improvement is shown for five schools (A, B, C, D, and E) on the student performance expectations subscale. The second most frequently increasing mean subscale score is for technical resources reported by four schools (A, B, C, and E) followed by mean subscale increases for peer reviewed practice reported by three schools (A, B, and E). Overall, the elementary schools showed far more increasing mean comparison scores on the MSCI survey subscales than either the middle schools or high school.