School Improvement in Petersburg: A Study of the Partnership for Achieving Successful Schools, Model IV Intervention

Years One and Two–Evaluation Report

Joanna Edwards, CNA
Karen Smith, CNA
Linda Marr, CNA
Kristine Chadwick, AEL

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Executive Summary

The Virginia Department of Education (VDOE) with the Appalachia Educational Laboratory (AEL) designed the Model IV Intervention of the Partnership for Achieving Successful Schools Initiative *(PA+SS)*. The project was implemented in Petersburg City Schools at the start of the 2002–2003 school year. The implementation continued through the following school year and should be complete in spring 2005.

The Model IV Intervention is one of four models that provide technical assistance to Virginia school divisions and that are now being tested by VDOE under the *PA+SS* project. The Model IV Intervention differs from Models I, II, and III because it is directed from the school division central office, includes a central office school improvement specialist and is designed around the concept of building school capacity through collaborative work between the school principals and school improvement specialists hired under the *PA+SS* project to assist with the Model IV implementation. The model focuses school improvement planning on specific skills, concepts, and content in each of the Petersburg City Schools *accredited with warning*. A warning status indicates the school has not fully met state accreditation standards, particularly those related to student achievement. Because all Petersburg City Schools are accredited with warning, the central office specialist is assigned to work with the central administration for up to 20 hours each week, although over time this role has expanded to 4 days per week. The main goal of the intervention is to improve student achievement to levels that ensure full accreditation in compliance with the state accountability model. Short-term goals include ensuring that (1) data are used to make sound instructional decisions at both the individual school and district level, (2) school and district faculty have the skills needed to develop a strategic plan for improvement based on these data, and (3) structures are in place and used to monitor that the strategic plan is implemented with fidelity.

AEL selected The CNA Corporation (CNAC) to conduct an independent but coordinated evaluation of the *PA+SS* Model IV Intervention project in the Petersburg City Schools. CNAC is conducting both qualitative and quantitative analyses to review and evaluate available

data. This report examines and evaluates the fidelity of the Model IV Intervention implementation from year one (the 2002–2003 school year) through year two (the 2003–2004 school year), by presenting a formative evaluation of the implementation processes and a preliminary summative evaluation of student achievement.

The evaluation study employs a quasi-experimental, matched control group design using pretest (pre-Model IV Intervention) and posttest (post-Model IV Intervention) analysis of achievement data. For comparative purposes, the pass rate data on the state's Standards of Learning (SOL) exams and high school end-of-course tests were collected from all 10 Petersburg City Schools and were matched with a control group of schools in Richmond City, yielding a sample size of 20 schools. Matches were made based on several characteristics, such as the size of the school, grade levels, poverty indications, and 2001–2002 State Standards of Learning (SOL) test results. The SOL tests for Virginia Public Schools are criterion-referenced tests and define the commonwealth's expectations for student learning and achievement in Grades 3, 5, and 8. The high school end-of-course exams are administered in the core courses, which include English, mathematics, science, and history/social science.

The evaluation also includes collection of qualitative data using focused telephone interviews with school improvement specialists, school principals, central office leaders, and a local board of education member. In addition, each school's most recent school improvement plan was reviewed and evaluated using the VDOE Academic Review Indicators, a rubric, to determine whether each school improvement plan (SIP) met the criteria specified by the state's rubric. Measures of school climate and capacity for improvement were collected by AEL and analyzed by CNAC to explore changes in these variables and their relationship to school improvement planning processes.

The main goals of this report are to document the Model IV Intervention implementation in Petersburg Public Schools and determine whether it is beginning to make a difference in student achievement as compared to matched control schools. Findings reveal that, overall, the Model IV Intervention was implemented with fidelity and student achievement is improving in some grades and subjects. The school improvement specialists have made inroads in gaining the trust of school leaders. There is evidence that the SIPs are being written, monitored, and revised by some school improvement committees; school climate is improving, and increases in student achievement are beginning to occur. These goals for school improvement, promoted by the

Model IV Intervention, are demonstrated by the analyses presented in each report section.

The first section, or chapter, of this report documents the Model IV Intervention. The intended audience for this report also is specified.

The second section documents the roles of the central office specialist, school improvement specialists, principals, and other division leaders who are the key facilitators of the *PA+SS* Model IV Intervention. We report on their activity types, level of effort, and working relationships. We also draw on their weekly activity reports to summarize the challenges and obstacles they encountered. During the first 2 years of the intervention, the school improvement specialists worked closely with school leaders and instructional personnel to foster adoption of a meaningful SIP 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 specialist alone cannot be expected to cause, or take credit for, progress in school performance: a team effort is required for the intervention to succeed. Even then, sustaining the progress could be problematic. Results from this interim report suggest that much additional time is needed to build capacity and transform a low-performing school division into one that is higher performing.

The third section of this report presents an analysis of the SIPs. Virginia's School-Level Academic Review rubric was used to assess whether each of the Petersburg schools' SIPs met the specified criteria. The rubric has three main categories of indicators: (1) Content Plan strategies with 13 indicators, (2) Implementation strategies with 7 indicators, and (3) Results strategies with 8 indicators. The rubric guides school improvement committee members when shaping a school's SIP content and implementation strategies and specifying measurement of school achievement results. As part of the Model IV Intervention, the school improvement committees added jump-start strategies that do not appear in the state's rubric. Although all school SIPs are written to reflect the indicators important for school improvement, some SIPs are not documented as well as might be expected. An analysis of one school's SIP required listing caveats regarding whether the school fully met or did not meet the rubric's guideline indicators. An evaluation of the SIPs for three other schools shows a range of compliance issues as defined by the rubric. Two additional schools also require SIP follow-up to determine whether strategies and action plans for change are actually being implemented.

The fourth section presents analyses of the dimensions of school climate and capacity for improvement. To illuminate these dimensions, which help chart the course to higher school achievement, AEL used two measurement tools—the *AEL Continuous School Improvement Questionnaire* (AEL CSIQ) and the *AEL Measure of School Capacity for Improvement* (AEL MSCI). The AEL CSIQ measures the extent to which a school exhibits a culture of continuous improvement. The AEL MSCI assesses the degree to which a school possesses the potential to become a high-performing learning community. Surveys were scored and analyzed using paired *t*-tests for each scale on both the AEL CSIQ and the AEL MSCI. Dimensions of school climate and capacity for improvement show that school improvement is occurring but at a different rate for climate (AEL CSIQ) than for capacity for improvement (AEL MSCI). The AEL CSIQ shows that perceived changes in school culture and climate are readily apparent when 2002 data are compared with 2004 data. However, changes in capacity for improvement show that professional staffs are less satisfied in 2004 than they were in 2003.

Section 5 presents an analysis of the SOL tests for Petersburg schools and the Richmond comparison group. These tests cover core subjects and are administered in Grades 3, 5, and 8, and as end-of-course exams in high school. This analysis presents baseline percentage rates of students passing the SOLs during the pre-Model IV Intervention period between 1998 and 2002 compared to the first year of the Model IV Intervention (2002–2003 school year). These cross-sectional analyses show variability in student improvement, but some actual gains at the third-grade level can be cited, as the following examples illustrate:

- five of the seven Petersburg elementary schools show gains in the percentages of students passing the English SOL exam.

- six of the seven Petersburg elementary schools demonstrate gains in the percentages of students passing the math and history SOL exams.

- All Petersburg elementary schools show gains in the percentages of students passing the science SOL exam.

Appendix 2 contains a series of charts that help to visualize trends in the SOL scores. The data used in these charts represent averages of the pass rates for each school district and for each SOL test and year combination. A least-squares linear trend (for the entire period 1998 to 2003) is plotted for the Richmond control schools. For the Peters-

burg schools, a least-squares linear trend is plotted for the pre-intervention period (1998 to 2002) and for the intervention period (2002–2003). Selected findings show the following:

- Third-grade SOL tests: The difference in achievement between Petersburg schools and Richmond control schools appears to be lessening, with Petersburg schools making larger gains and, hence, approximating the achievement of the Richmond controls.

- Eighth-grade SOL tests: Math and history pass rates for Petersburg schools were generally lower than the control group during the pre-intervention period; however, notable gains have been made and the differences between Petersburg and the Richmond control are becoming smaller.

- High school end-of-course tests: Petersburg pass rates were generally higher than the Richmond control pass rates during the pre-intervention period. Both high schools (Petersburg and the Richmond control) made gains in all subject areas. Petersburg City Schools achievement is not increasing at a greater rate than Richmond City, but neither is it losing ground.

Recommendations

The following conclusions and recommendations can be made based on the data from this formative evaluation:

- The Model IV Intervention innovation of assigning a senior school improvement specialist to the central office appears to be having some positive effects in the Petersburg Division based on interview, survey, and achievement data. Therefore, the intervention team should work with the Division to ensure that the central office specialist's responsibilities are picked up, either by creating a permanent position or by assigning these responsibilities to another central office staff member who has the necessary qualifications.

- From the interview data, it appears that the role of the school instructional specialist is key to program sustainability.[1] Ide-

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[1] The school instructional specialist is an employee of Petersburg City Schools and assigned to a school on a full-time basis, whereas the school improvement specialist is employed by the

ally, this person would provide continuity in data expertise and be available both to provide instruction in data analysis and to do data analysis as needed. Institutionalizing this position, 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. Therefore, the school improvement specialists should continue to train these instructional specialists during the entire three-year intervention.

- Because the role of the parent is critical to student success, all principals should be required to include parent representative(s) on each school improvement committee to help develop each school's SIP.

- 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 plans should be created and monitored at the Division and school levels. This would help the central office be more involved in supporting principals, building school capacity, and maintaining collaborative relationships with school leaders.

Virginia Department of Education and AEL, and is responsible for implementing Model IV Intervention.

Introduction

The Virginia Department of Education (VDOE) is interested in determining best practices for supporting under-performing or low-performing schools in its effort to improve student achievement. "Low performing" refers to those schools that do not meet the standards established and monitored by the state board of education. Petersburg City Schools includes seven elementary schools, two middle schools, and one high school. All 10 of these schools have high-poverty and high-minority student populations, and all schools exhibit low performance. Dr. Jo Lynne DeMary, State Superintendent of Public Instruction, requested that the Appalachia Educational Laboratory (AEL) work in partnership with VDOE and the 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. The Virginia state accountability system provides pressure to help ensure that schools take change initiatives seriously.

AEL selected The CNA Corporation (CNAC) to conduct an independent but coordinated evaluation of the *PA+SS* Model IV Intervention project in the Petersburg City Schools. Headquartered in Charleston, West Virginia, AEL is a not-for-profit corporation that provides research, product development, and professional development services to educators, education publishers, and policymakers. Located in Alexandria, Virginia, CNAC is a private, nonprofit research and evaluation organization with a 60-year history of studying issues of local and national interest and providing assistance to policymakers and practitioners in solving complex social and educational problems. Together, these entities are working to design, implement, and evaluate the *PA+SS* Initiative Model IV Intervention in the Petersburg City School Division's 10 schools.

Model IV Intervention is one of four models now being tested by VDOE that provide technical assistance to Virginia school divisions under the *PA+SS* project. However, each model takes a different approach. Model I provides technical assistance by a state team of educators who conduct an Academic Review (AR) at the school level. The AR team looks for things such as evidence of best practices, uses of data, curriculum alignment, and professional development. The team reviews test scores, conducts observations in classrooms, and interviews principals. Areas defined 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 AR school visit, the 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 as Model I with the exception that Model II technical assistance requires visits from an external teacher and principal who make monthly visits to schools *accredited with warning*. The Model III intervention involves all of the above. In addition, an external principal, trained in school improvement theory and strategies, is assigned to work with the principal and faculty in each school accredited with warning for one week per month.

Unlike the other models, the Model IV Intervention calls for putting one school improvement specialist in each school and another school improvement specialist in the central office (referred to as the central office specialist). Of the four models, only Model IV involves working at the school division's central office. Because the state board of education has no legal authority to take over failing schools, Model IV Intervention is intended to provide support at both the individual school and central office levels. The intervention is aligned with the state requirement that a school division have an improvement plan when there is little improvement in student achievement. In the environment of standards-based reform in Virginia, all schools in the Petersburg City School Division are under pressure to improve.

Purpose of this report

This report presents the formative evaluation findings of the Model IV Intervention implemented in the Petersburg City School Division during the first two years (school years 2002–2003 and 2003–2004) of the three-year divisionwide school improvement project. The report presents CNAC's analysis of the fidelity with which AEL implemented the Model IV Intervention. It explores the role 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 school climate and capacity for improvement. This report also presents a comparative analysis of the percentages of students passing the Standards of Learning (SOLs) tests during the four years prior to the Model IV school improvement intervention and in the one year for which data are available since the Intervention was initiated.

Audience for this report

The primary audiences for this report are the Commonwealth of Virginia, which instituted the *PA+SS* models, AEL, the U.S. Department of Education's Institute of Education Sciences, and practitioners and policymakers at large who are interested in school improvement, particularly in low-performing schools with high concentrations of poor and minority students.

Model IV Intervention

During the 2002–2003 school year, VDOE and AEL began implementing Model IV of the *PA+SS* project in Petersburg City Schools. The implementation continued through the 2003–2004 school year and should be complete by spring 2005. The Model IV Intervention provides a system of external facilitation to help the Petersburg schools improve student achievement. The long-term goal of the intervention is to improve student achievement to levels that ensure full accreditation in compliance with the state accountability model. Short-term, the intervention aims to ensure that

1. data are used to make sound instructional decisions at both the individual school and district levels
2. school and district faculty and staff have the skills needed to develop strategic plans for improvement based on these data
3. structures are in place and used to monitor that the strategic plan is implemented with fidelity

Model IV focuses school improvement planning in specific skills, concepts, and content by funding school improvement specialists to serve as external facilitators in each of the Petersburg City Schools 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. The Model IV Intervention also features a central office school improvement specialist (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 all 10 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 who has successfully led a similar school in the past. All receive AEL training that includes use of data for decision making, school improvement planning, curriculum alignment, monitoring instruction, and use of assessment to monitor student achievement. They also receive in-depth training in facilitation skills. The school improvement specialists meet monthly to reflect on their experiences in the schools and to receive additional training as needed.

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

- support the principal, school leadership team, and teachers as they use 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 develop 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 school improvement specialist

At present, all schools in the Petersburg City Schools division are accredited with warning. Therefore, a school improvement specialist, referred to as the central office specialist, was originally 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, over time the central office specialist role has expanded to four days per week. The role of the division-level facilitator is to

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- 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 support the work of the schools in improving student achievement

- support the superintendent, central office leadership team, and school board as they use 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 will build their improvement efforts

- build structures and processes to support central office monitoring of the implementation of the improvement plans

- link the school division to outside resources, such as the Virginia Department of Education, for assistance in the improvement process.

The school improvement specialists at the school and central office levels build the capacity of the school community to use data to develop and implement a SIP by providing training in data analysis and strategic planning and by modeling the trained behaviors.

School improvement plan

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

- aligning the written curriculum with the taught curriculum

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[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.

- 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 may 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 by the jump-start strategies, each school improvement specialist supports 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 helps to determine the readiness of the faculty and community beyond the school to change practices and use data to plan for change and to foster faculty collaboration and distribute leadership functions. School improvement specialists influence and shape 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 programs. All seven elementary schools and both middle schools are designated as Title I schools. Eight of the 10 schools are at or slightly above the student achievement benchmark used to designate schools as low performing.

Evaluation plan

The evaluation employs a quasi-experimental, matched comparison group design that uses pretest and posttest achievement data analyses.

For comparative purposes, data were collected in all 10 Petersburg City Schools, along with one-to-one matched control group schools in Richmond City,[3] yielding a sample size of 20 schools. Matches were made based on several characteristics, such as the size of the school, grade levels, poverty indications, and 2001-2002 SOL test results.

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

- Goal 1: To what extent is Model IV implemented with fidelity?

- Goal 2: How effective was Model IV in improving student achievement?

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

1. What has been the impact of the school improvement specialists and central office specialist on school culture, capacity for improvement, quality of the school improvement plans, and student achievement (as measured by nine-week benchmark assessments and standardized tests)? Are there other (unintended) effects of the Model IV intervention?

2. What role did school improvement specialists play in guiding school leadership?

3. Which students appear to have made greater achievement gains through the intervention?

4. What is the relationship between the level of intensity of the intervention and growth in student achievement?

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

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[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.

- the role of the school improvement specialists

- the merits of the school improvement plans

- the school culture and capacity for improvement

- patterns and trends in SOL results for both Petersburg schools and the Richmond City comparison group schools.

Findings

Role of the school improvement specialists

The school improvement specialists and the central office school improvement specialist constitute the key ingredients in the Model IV Intervention. This section reports on their activities and levels of effort. Data collected from them and from relevant school personnel help also to depict the obstacles and opportunities they encountered. We are able to characterize the school improvement specialists' interactions with school and central office personnel to gain a picture of their accomplishments and make suggestions for future improvement.

This section covers three main sources of data: (1) the school improvement specialists' monthly contractor reports and invoices, (2) their weekly journals, and (3) interviews with the school improvement specialists and school leaders with whom they interacted. For the central office specialist, we have weekly field notes for the 2002-2003 year and interview data for 2003-2004.

The contractor reports and invoices provide a summary of what the school improvement specialists did and their level of effort (number of days worked per month). The weekly journals provide insights into the intervention and its evolution. The interviews, conducted at the end of the second year of the initiative, present a more distilled view of the process and one with additional dimensions, as we interviewed school personnel—particularly principals—and school improvement specialists. 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.

Several common themes emerged from these documents. Most are problems the school improvement specialists encountered in their work, and others are barriers that made implementation of *PA+SS* Model IV more difficult. These themes include the following:

- mistrust of school improvement specialists by school personnel
- lack of leadership at several levels
- micromanagement by school board officers
- high turnover of teachers and administrators

- need for teacher development

- discipline and classroom management problems

- mistrust between schools and central office

- too many new initiatives and not enough follow through

We discuss these themes later in this section. First, we describe in more detail our data sources.

The data

Monthly contractor report and invoice

In the monthly contractor report and invoice (MCRI), the school improvement specialists recorded the number of days they worked each month and briefly described the nature of their contributions. We do not have complete records for all of the school improvement specialists, but those we have allow us to determine the level of effort typical of a school improvement specialist.

Interviews

In summer and fall 2004, the study team conducted interviews via telephone with the following seven school improvement specialists assigned to the schools,[4] the central office specialist, principals at most of the Petersburg schools, other administrators if the principal was not available, and a small group of central office administrators. 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. They covered the following topics:

- school improvement specialists' perceptions of the schools

- school staff's perceptions of the school improvement specialists

- role of the school improvement specialists

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

- pressing needs of the schools
- whether and how the *PA+SS* initiative addressed those needs
- school improvement specialist's accomplishments
- challenges and disappointments
- lessons learned
- effectiveness of the SIP process
- AEL's performance
- perceptions of the impact of the program

School improvement specialist field notes

School improvement specialists were tasked 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 their perceptions of their effectiveness. The journals vary in their 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. Another is a terse list of activities with limited commentary. The others fall between these two extremes. Because of the variation in style and 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, we will not identify individual school improvement specialists or their school assignments.

What school-level school improvement specialists did

This section covers the school improvement specialists' activities. We construct this picture of what the school improvement specialists did primarily from two sources: (1) the monthly compensation reports and (2) the interviews. We refer to the weekly journals to supplement these sources as needed. We cover the activities of the central office school improvement specialist in a separate section.

The school improvement specialists typically began their assignments by attempting to meet with the school administrators. In particular, they wanted to get the principal onboard 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 regularly with the school instructional specialists and with division curriculum specialists as the need arose.

The school improvement specialists worked hard to get school administrators to focus on the SIP. They served on school improvement teams and committees. Depending on the principal, the school improvement specialists were invited to do "walkarounds" in the classrooms and to observe classroom activities. The purpose of these walkarounds, 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 AR Team, which consisted of educators paid by VDOE to conduct an external review of the schools' instructional programs.[5] They often worked one-on-one with teachers. In his or her own way, each school improvement specialist took on the activities they were expected to perform according to the *PA+SS* Model IV plan.

Table 1 lists the ways in which the school improvement specialists contributed. We have listed activities found in the school improvement specialists' monthly contractor reports and the activities recorded in the interviews according to more general activity categories.[6] Many of these directly track to elements of the *PA+SS* Model IV guidelines. Others, however, represent strategies devised by the school improvement specialists to deal with their individual school environments. Ideally, it would be interesting to know how often school improvement specialists engaged in each of these activities. Because the school improvement specialists were not systematically asked for a frequency of how many times they performed a specific activity, we could not present an accurate count. This list should instead be viewed as showing simply the scope of school improvement specialist activities.

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[5] Recommendations (Essential Actions) from the AR Team were expected to be incorporated into the SIP.

[6] When we compare the school improvement specialist accounts of their activities with the lists given by the principals, there are differences. For the most part, the interviews are less detailed (as should be expected, given that these were conducted over 30- to 45-minute telephone sessions). It is possible, however, that in some cases the principals were unaware of the broader scope of the school improvement specialists' activities.

Table 1 Categories of School Improvement Specialist Activities

School improvement specialist Activities
Brought in teaching resources (e.g., Daily Oral Language materials)
Advocated for school needs at central office
Conducted workshops (e.g., workshops for teachers and instructional specialists on disaggregating SOL data)
Met with grade-level groups
Instructed teachers on how to teach test-taking strategies
Observed classes
Helped to set up remediation programs
Taught data analysis (e.g., workshops on interpreting benchmark test data)
Helped staff to use data one-on-one
Analyzed data
Helped to set up nine-week benchmark tests
Helped to create professional development calendar
Helped to develop and update SIP
Worked with school improvement team
Helped school prepare for Academic Review
Helped to implement instructional models (e.g., proven instructional strategies, new math models, Co-nect program)
Helped to align curriculum to the SOLs
Helped to implement instructional monitoring system

Level of effort and contacts

Data from the MCRIs indicate that the school improvement specialists worked between 1 and 2 days a week per school. They also spent time facilitating and/or participating in divisionwide workshops and school improvement specialist meetings. This level of involvement is in keeping with the *PA+SS* Model IV guidelines.

According to our data, the school improvement specialists worked closely with principals, other members of the school leadership, and school instructional specialists. They usually were viewed as members of the school improvement team. They also worked with individual teachers and students. Some of the school improvement specialists worked with central office personnel, such as the curriculum special-ists. At times, they brought in outside resource personnel. Individu-

ally and in group meetings, they consulted with the other school improvement specialists and compared notes.

Accomplishments

From our interviews, we gained a picture of the school improvement specialists' perceptions of their greatest accomplishments. It is interesting to note that several of the school improvement specialists viewed gaining the trust of the principal 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 substantive accomplishments were also noted. Several school improvement specialists noted that analyzing data was a major accomplishment, whereas others spoke of helping school personnel analyze data. A few raised their perceived accomplishments to the level of creating capacity within the 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.

Themes

In this section, we summarize our data on the role of the school improvement specialists by drawing out themes from their accounts of activities. In many cases, these themes identify impediments that hindered the school improvement specialists from accomplishing their goals. More generally, these can be viewed as stumbling blocks in the path of meaningful school reform. For this section, the school improvement specialist journals are our primary source, but we also draw on our other sources.

Mistrust of school improvement specialists

Although not stated explicitly in all journals, it was evident that the school improvement specialists often felt unwelcome (as though they were interlopers) at their assigned sites. The mistrust was manifested in several ways:

- the schools' failure to include the school improvement specialists in relevant meetings

- the school improvement specialists' inability to schedule meetings with principals and central office administrators

- school personnel failure to attend scheduled meetings with school improvement specialists

In most cases, the mistrust seems to have waned over time as the school improvement specialists developed relationships and provided useful assistance and advice to their clients. It is clear, however, that the unwelcoming attitude of central office staff and school personnel was often painfully slow to dissipate.

Lack of leadership

Many of the journals contained entries indicating their author's perception of a lack of leadership in the school system hierarchy. We found this problem to be documented at all levels, not only in the elected school board and at the central office, but also in school-level leadership. We touch upon the problem at each of these levels in turn.

School board hierarchy

Some of the journals recounted problems stemming from perceived micromanagement by the division's school board. This problem manifested itself in several ways:

- a great deal of time spent by school leadership responding to school board leaders' questions

- ad hoc meetings of school staff called by school board leaders

- ad hoc decisions to change policies that directly affected school programs

- hectoring of school personnel by school board leaders

Clearly this problem was beyond the school improvement specialists' scope to influence. It did, however, affect the ability of the school system to do its job, and it redirected resources away from the real purpose of improving student achievement.

Central office hierarchy

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 discipline, such as math, science, or English.

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

During the 2002-2003 year, the superintendent[7] seemed less than proactive about fostering the *PA+SS* program. 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. In particular, a lack of follow-through seemed pervasive.

The 2002-2003 superintendent brought in a former 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."

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.

School improvement specialists observed at least one case in which the incompetence of an administrator ultimately led to Petersburg schools'

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[7] A new superintendent was hired for the 2003-2004 school year.

failure to win a grant that had been all-but-earmarked for them. In this regard, a lack of planning and organization was evident, and the *PA+SS* project personnel were called in too late to save the day.

School hierarchy

According to the intervention model, the school improvement specialists were to work directly with the principals. This was necessary in order for them to be taken seriously by teachers and other instructional staff members. In August 2002, the central office specialist conducted a workshop with all the principals to orient them to the Model IV Intervention and explain to them 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. Stiff-arming and stonewalling are words that come to mind in describing 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 "walkarounds." These appearances by the principals were seen by all Model IV staff as important to emphasizing the principals' roles 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, that also sent a message.

Further, the perceived quality of the principals was spotty. Several were deemed inexperienced, out of their depths, or ineffectual. These perceptions seem related to the level of engagement between the school improvement specialist and the principal. It was reported that some central office administrators had also shared their concerns about some principals' lack of leadership skills.

Finally, some members of the school leadership did not appear invested in the SIP process. One of the school improvement specialists commented, in year two of the intervention, that teachers didn't have copies of the SIP. It's not surprising that the teachers, lacking such a basic tool, didn't 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."

These observations describe two extremes—giving school improvement specialists too little or too much responsibility, both of which are undesirable—and a middle path that the intervention aimed for: influencing and inspiring principals. Thus, the school improvement specialists need not only skills in instructional practices but also interpersonal skills to create the desired effect. This situation can be tricky because the school improvement specialists have no authority over school personnel; they can only try to influence behavior indirectly and through their own examples.

Mistrust between schools and central office

Some school improvement specialists described an atmosphere of mistrust between school personnel and the central office.[8] At times, school administrators were perceived as viewing central office personnel as antagonists. Other school personnel were similarly inclined. 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 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 curriculum specialist in the school to observe, and a visit from the Central Office Support Team.

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[8] 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.

This clustering of incidents indicates a lack of coordination and timely communication from the central office.

There were many cases of last-minute demands put 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 about more 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 worse, because no one in the central office decreed that the schools should allot the 2 hours per day.

A plethora of programs

Judging from the school improvement specialists' journals, administrators were reaching far and wide to find solutions to the Petersburg City Schools' low SOL scores. Rather than taking a division-wide approach to the curriculum, different programs were instituted at different schools. New programs in math were begun at 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 believed that too much was being thrown at the instructional personnel and called for a more focused approach to curriculum initiatives. Given the occasional low level of teacher skills to begin with, 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 student shortcomings based on test results and to adapt their teaching to these individual requirements.

Turnover

The school improvement specialists reported that a "high level" of turnover among administrators and teaching personnel exacerbated the

problems noted above. During the 2 years covered in this report, turnover took place at all levels, from the school board and superintendent down. School improvement specialists remarked on the difficulties presented by the 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 in the course of the intervention.

Back to basics

Perhaps the most prominent message from the journals is that there can be no quick fix. The school system is 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.

The school improvement specialists were of the opinion 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.

Central office school improvement specialist

A defining characteristic of the Model IV Intervention is that a school improvement specialist (referred to as the central office specialist) works at the division's central office for about 20 hours per week.

During the first 2 years of the intervention, two different individuals held that position. In the 2002-2003 school year, the first central office specialist had trouble making inroads into the central office. According to her successor, "[The] central office staff was very dismissive of [her]—acting as if they simply didn't think of her rather than being openly aggressive." Thus, there was a perceived passive but effective resistance to the central office specialist.

This perception is borne out by the first central office specialist's weekly journal entries. They chronicle a series of meetings where key personnel did not show up, a failure on the part of central office personnel to consult with her, and other frustrations in trying to do her job. To remedy this, in the second year, AEL'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 take the project further. He was helped in this endeavor by the departure of the previous superintendent and the arrival of a new one who was much more supportive of the intervention and appreciative of the second central office specialist's contributions.[9] We focus our account on this second central office specialist's activity.

Central office specialist activities

The presence and activities of the central office specialist are central to this intervention. We are able to gain a sense of the central office specialist's activities from his interview and from the school-level school improvement specialist's journals, because his efforts often directly supported them. He held principals' workshops monthly, which covered leadership training and 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, before taking on the role of interim assistant superintendent, he served for a time as acting interim superintendent, which gave him direct authority over principals that another central office specialist is unlikely to have. We are

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[9] So appreciative, in fact, that he appointed the central office specialist as Interim Assistant Superintendent.

unable to draw the line between his activities in the dual roles, so will describe them all. Because all Petersburg City Schools are accredited with warning, the central office specialist, usually 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 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 in 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.

In these 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. He continues to struggle, however, with the culture's resistance to change and, in some cases, a lack of talent among division personnel.

Merits of the school improvement plans

Virginia's School-Level Academic Review rubric was used to assess whether the Petersburg Schools' SIPs met the specified criteria. 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. 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.

The School-Level AR rubric was used to evaluate the 10 SIPs for the 2003-2004 school year. In addition, recommendations for the four schools in which full academic reviews were conducted were examined and compared for congruence with the content of those schools' SIPs. Tables 2a through 5b 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.

Table 2a. 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

Table 2b. 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

Table 3a. 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

Table 3b. 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

Table 4a. 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

Table 4b. 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

Table 5a. 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

Table 5b. 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

As Tables 2a through 4b show, 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. Tables 5a and 5b show this also was true for 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:

1. 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.

2. 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.

3. SIP 3.7 – Value = X
   There is not enough information to indicate whether indi-
   vidual student objectives are being met, but there are
   benchmark tests at specific intervals.

4. JS 1 – Value = 1
   The SIP indicates that School E is complying with this
   strategy; however, there are no data available for documen-
   tation.

5. 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 indica-
tor 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:

1. SIP 1.11 – Value = 1
   School F has identified broad categories of individuals re-
   sponsible for implementing the SIP.

School G

School G shows compliance with all of the 13 plan content indica-
tor 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:

1. SIP 2.3 – Value = 1
   Implementation is documented; however, data are incom-
   plete.

2. SIP 2.4 – Value = 1
   Implementation is documented; however, data are incom-
   plete.

3. SIP 2.6 – Value = 1

Some deadlines are met; however, the majority of action steps do not have the data necessary to determine compliance.

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

5. 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:

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

2. 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:

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

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

Summary

All schools did an adequate job of complying with rubric indicators in SIP 1 Content of Plan. 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 are being implemented.

For example, all school 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. An examination of School B's SIP calls 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 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.

School culture and capacity for improvement

Dimensions of school culture 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.[10] To illuminate the dimensions of school climate and capacity for improvement that help chart the course to higher achievement, AEL used two measurement tools: AEL Continuous School Improvement Questionnaire (CSIQ) and AEL Measure of School Capacity for Improvement (MSCI). We used the AEL CSIQ to survey a total of 368 professional staff in 2002, 319 staff in 2003, and 268 staff in 2004 to determine their opinions about school climate. We also used the AEL MSCI to survey 94 school professionals' opinions about the capacity for school improvement in both 2003 and 2004.

AEL continuous school improvement questionnaire

The AEL CSIQ helps the school staff gauge its performance on six vital dimensions related to continuous school improvement. The AEL 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 AEL CSIQ requires the professional staff—principals, teachers, teachers' aides, media specialists, librarians, counselors, and others who have classroom or advisory contact with students and parents—to provide their perceptions of how the school rates on several dimensions. In this sense, the AEL CSIQ is a self-report inventory. That is, school performance on the AEL CSIQ is a function of the combined perceptions of the professional staff. In

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[10] Information on the validity and reliability of the AEL 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.

general, the smallest unit of analysis is the school, and results apply most directly to specific schools.

The AEL 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 staff 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 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.

Table 6 shows the descriptive statistics on the six AEL CSIQ scales for Petersburg City Schools professional staff who completed the instrument in 2002 ($N = 368$), 2003 ($N = 319$), and 2004 ($N = 268$). Of the elementary schools, the learning culture scale mean scores in 2004 for Schools B (49.4), D (50.3), and G (49.6) are highest, with School D showing a consistent upward trend on this scale for the 3 years surveyed. Schools B, D, and G each show a consistently upward trend in mean scores on the shared goals for learning in 2004: School B (50.0), School D (51.9), and School G (49.7.) Schools B, D, 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). The effective teaching scale also shows a steady upward trend in mean scores for the 3 years of interest, with Schools C (50.3) and G (51.6) showing the highest mean scores in 2004. Of the elementary schools, School E decreased the most, showing higher mean scores in 2003 than in 2004 on all scales except purposeful student assessment; however, the decrease in scores did not sink to the low 2002 levels shown prior to the Model IV Intervention.

Table 6 Descriptive Statistics for the AEL Continuous School Improvement Questionnaire

Schools	Mean			Median			Std. Dev.		
	2002	2003	2004	2002	2003	2004	2002	2003	2004
School A	*n*=26	*n*=27	*n*=23						
Learning culture	45.8	46.7	43.9	49.0	46.0	45.0	9.3	7.1	10.0
School/family/community connections	43.3	44.6	44.9	47.0	47.0	47.0	10.1	8.4	9.9
Sharing leadership	46.3	42.7	43.8	47.0	45.5	43.5	7.8	10.6	9.3
Shared goals for learning	44.3	46.9	47.6	46.5	47.0	49.0	10.2	5.6	8.2
Purposeful student assessment	44.7	44.7	46.7	45.0	43.0	46.5	9.1	6.9	8.8
Effective teaching	47.1	47.6	47.3	49.0	49.0	47.0	8.7	7.7	10.1
School B	*n*=22	*n*=17	*n*=16						
Learning culture	47.6	51.6	49.4	54.0	54.0	49.0	7.5	7.3	5.1
School/family/community connections	42.5	47.8	49.4	45.0	51.0	49.0	11.4	11.9	5.7
Sharing leadership	34.1	45.8	43.8	31.0	51.0	48.5	14.7	13.6	11.7
Shared goals for learning	41.8	48.5	50.0	41.0	51.0	51.0	12.3	8.6	5.5
Purposeful student assessment	42.9	47.8	51.0	42.0	50.5	51.5	10.8	10.6	5.2
Effective teaching	49.3	52.7	51.0	49.0	55.5	51.0	8.0	7.9	6.5
School C	*n*=22	*n*=25	*n*=16						
Learning culture	44.8	46.2	50.3	46.5	46.5	50.5	7.8	4.6	5.5
School/family/community connections	39.4	41.6	46.4	40.0	41.0	47.0	9.2	8.1	9.5
Sharing leadership	39.7	40.8	43.9	40.0	40.0	43.5	9.7	9.0	10.4
Shared goals for learning	43.2	44.7	51.9	44.0	46.0	53.0	10.4	7.0	5.9
Purposeful student assessment	40.1	42.4	50.9	41.0	41.0	51.0	9.1	6.2	6.9
Effective teaching	44.9	45.4	50.3	46.0	46.0	48.5	8.9	4.9	5.2
School D	*n*=34	*n*=31	*n*=22						
Learning culture	42.0	49.5	46.6	44.0	51.5	48.0	9.0	8.1	12.5
School/family/community connections	40.8	48.8	45.8	43.0	52.0	50.0	9.8	8.9	12.3
Sharing leadership	37.3	46.8	41.7	37.0	49.0	46.5	14.3	12.2	14.1
Shared goals for learning	39.8	48.8	46.9	42.0	50.0	50.0	10.7	8.8	11.2
Purposeful student assessment	41.3	49.4	47.4	42.5	52.0	50.5	10.0	8.6	11.3
Effective teaching	44.6	52.5	48.4	45.0	54.0	52.0	9.4	7.0	11.9
School E	*n*=24	*n*=24	*n*=19						
Learning culture	39.0	44.5	40.8	39.0	45.0	42.5	8.7	9.0	10.4
School/family/community connections	37.1	41.6	39.3	37.5	44.0	41.5	10.6	10.0	11.9
Sharing leadership	32.1	40.0	36.2	33.5	38.0	40.0	11.9	11.2	14.2
Shared goals for learning	37.1	42.5	39.4	38.5	42.0	45.0	10.6	9.8	12.9
Purposeful student assessment	39.4	43.5	44.9	42.0	44.5	46.0	11.0	10.2	10.8
Effective teaching	40.7	45.4	44.9	40.0	47.5	47.0	10.0	10.6	11.3

Table 6 Descriptive Statistics for the AEL Continuous School Improvement Questionnaire (continued)

Schools	Mean			Median			Std. Dev.		
	2002	2003	2004	2002	2003	2004	2002	2003	2004
School F	*n*=33	*n*=38	*n*=28						
Learning culture	44.5	42.9	47.3	46.0	43.0	47.5	8.7	8.6	7.9
School/family/community connections	40.8	43.9	45.1	40.0	44.0	44.0	9.5	8.5	8.2
Sharing leadership	37.5	40.4	45.7	37.0	43.0	47.0	10.0	11.4	9.1
Shared goals for learning	40.9	41.5	47.6	42.0	41.0	47.0	8.4	9.8	7.9
Purposeful student assessment	40.9	43.6	49.1	41.0	45.0	48.0	10.0	9.4	7.5
Effective teaching	45.9	43.8	47.8	47.0	44.5	47.0	7.5	9.6	8.3
School G	*n*=34	*n*=20	*n*=22						
Learning culture	45.5	50.2	49.6	47.0	51.0	50.0	8.7	7.6	5.4
School/family/community connections	43.8	50.4	46.4	44.5	53.0	49.5	8.5	8.0	7.0
Sharing leadership	42.5	50.2	39.9	44.0	51.0	41.0	8.4	7.3	11.1
Shared goals for learning	44.3	48.8	49.7	45.0	51.5	50.0	5.9	7.6	4.9
Purposeful student assessment	44.3	48.1	49.2	47.0	50.0	50.0	9.1	9.0	5.8
Effective teaching	44.8	48.9	51.6	45.5	50.0	50.0	8.7	7.9	4.5
School H	*n*=27	*n*=0	*n*=25						
Learning culture	40.0		48.5	41.0		51.0	10.5		7.6
School/family/community connections	34.6		45.6	34.0		44.0	11.5		7.5
Sharing leadership	35.6		45.0	36.0		48.0	9.4		8.6
Shared goals for learning	35.4		47.5	35.0		49.0	10.5		7.3
Purposeful student assessment	34.5		47.0	33.0		48.5	9.4		7.9
Effective teaching	40.6		47.4	41.0		50.0	11.3		9.7
School I	*n*=39	*n*=32	*n*=36						
Learning culture	46.4	40.5	44.8	49.5	42.0	45.0	8.7	10.6	9.5
School/family/community connections	40.3	37.7	40.9	42.0	37.0	41.5	11.2	12.5	10.4
Sharing leadership	41.6	38.4	33.3	43.5	40.5	35.5	10.7	11.7	14.9
Shared goals for learning	41.6	40.7	43.3	42.0	41.5	44.0	9.0	10.7	9.1
Purposeful student assessment	42.3	40.1	45.4	44.5	41.0	46.0	10.1	11.2	7.9
Effective teaching	45.5	43.0	45.6	47.0	44.0	47.0	9.1	10.9	8.7
School J	*n*=59	*n*=82	*n*=38						
Learning culture	38.6	42.3	41.5	38.0	42.0	45.0	11.3	9.7	11.2
School/family/community connections	33.0	38.0	36.5	32.5	37.0	37.0	11.7	11.2	12.8
Sharing leadership	31.4	38.2	38.4	31.0	38.0	41.0	14.4	12.7	13.0
Shared goals for learning	35.1	40.5	40.8	33.5	41.0	46.0	12.0	10.7	12.4
Purposeful student assessment	34.3	40.0	40.7	32.5	41.0	42.0	12.4	11.1	11.8
Effective teaching	40.2	43.1	41.6	40.5	44.0	43.5	11.3	9.8	11.3
School K	*n*=0	*n*=0	*n*=8						

Schools	Mean			Median			Std. Dev.		
	2002	2003	2004	2002	2003	2004	2002	2003	2004
Learning culture			46.9			48.5			5.5
School/family/community connections			39.6			40.5			8.1
Sharing leadership			41.6			44.0			7.6
Shared goals for learning			40.8			39.0			8.7
Purposeful student assessment			46.1			46.5			5.1
Effective teaching			51.6			51.0			3.4
School L	*n*=0	*n*=7	*n*=0						
Learning culture		43.3			46.0			9.8	
School/family/community connections		33.9			34.0			11.6	
Sharing leadership		44.4			49.0			14.3	
Shared goals for learning		44.3			47.0			10.1	
Purposeful student assessment		33.0			35.0			7.3	
Effective teaching		45.1			51.0			14.7	

Tables 7 and 8 show the descriptive statistics for matched pairs for the CSIQ surveys and the results of paired *t*-tests for the CSIQ surveys, respectively. The difference, or gain, scores were calculated on the 64 professional staff at Petersburg schools who completed the survey in both 2002 and 2004. We compiled summary descriptive statistics for each of the six scales on which matched paired *t*-tests were calculated for the base year (2002) and school improvement year two (2004). Because all 64 staff who completed the survey in 2002 and 2004 did not answer every question on each scale, the matched paired *t*-test performed on each of the six scales for the 2002 and 2004 data ranged from $n = 64$ to $n = 59$. The findings show that the paired *t*-test statistic is significant for five of the six CSIQ scales: learning culture ($n = 60$), school/ family/community connections ($n = 64$), shared goals for learning ($n = 59$), purposeful student assessment ($n = 61$), and effective teaching ($n = 62$), which indicates an increase in the average scale scores from 2002 to 2004.

Table 7 Descriptive Statistics for Matched Pairs for CSIQ Survey of School Climate

	Mean		Std. Dev.	
	2004	2002	2004	
Learning culture	44.6	47.7	8.8	9.2
School/family/community connections	40.3	44.0	10.6	10.9
Sharing leadership	40.3	42.5	11.9	12.9
Shared goals for learning	42.2	48.4	10.1	9.6
Purposeful student assessment	41.5	48.7	10.9	9.0
Effective teaching	46.5	49.0	8.9	8.9

Table 8 Results of Paired *t*-Tests and Cohen's *d* Estimates of Effect Size for CSIQ Survey of School Climate

	Paired Differences		Test Statistic	Two-tailed Significance	Effect Size (*d*)
	Mean	Std. Dev.			
Learning culture	-3.2	9.0	-2.7	<.01	0.35
School/family/community connections	-3.7	9.8	-3.0	<.01	0.37
Sharing leadership	-2.3	12.5	-1.4	0.17	
Shared goals for learning	-6.2	8.0	-6.0	<.01	0.78
Purposeful student assessment	-7.1	9.5	-5.9	<.01	0.75
Effective teaching	-2.5	8.9	-2.2	0.03	0.28

Note: The mean is based on the 2002-2004 value, so a negative mean indicates an increase in subscale score. Significant values indicate that the mean is significantly different from zero and, in this case, that means a significant increase in subscale score.

AEL measure of school capacity for improvement

The 64-item 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.[11]

AEL evaluators administered the AEL 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.

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.

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[11] Howley, C., and 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.

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.

Table 9 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, and for the 282 who completed the instrument in 2004. Three of the schools (B, D, and G) showed increasing mean scores on three to four of the eight MSCI subscales, albeit each school did not increase on the same group of subscales. All these schools improved on the anti-discriminatory teaching and differentiated instruction scales. School B also had an improved mean score on the responsive pedagogy scale. School D showed improved mean scores on collective teacher efficacy and student performance expectations scales. And School G showed improved mean scores also on collective teacher efficacy and student performance.

Table 9 Descriptive Statistics for AEL MSCI Survey of Capacity for Improvement

	Mean		Median		Std. Dev.	
	2003	2004	2003	2004	2003	2004
School A	**n=26**	**n=25**				
Collective teacher efficacy	4.7	4.7	4.7	4.9	0.8	0.7
Peer reviewed practice	4.4	4.1	4.5	4.0	0.8	0.9
Program coherence	4.6	4.3	4.6	4.3	0.8	0.8
Technical resources	4.3	4.2	4.3	4.3	1.0	0.9
Anti-discriminatory teaching	5.3	5.0	5.3	5.0	0.6	0.8
Responsive pedagogy	4.9	4.8	4.9	4.8	0.6	0.8

Table 9 Descriptive Statistics for AEL MSCI Survey of Capacity for Improvement (continued)

	Mean		Median		Std. Dev.	
	2003	2004	2003	2004	2003	2004
Differentiated instruction	4.8	4.9	4.8	5.0	0.8	0.8
Student performance expectations	4.8	4.8	4.7	4.8	0.8	0.8
School B	*n*=16	*n*=16				
Collective teacher efficacy	5.0	4.9	5.0	5.0	0.7	0.5
Peer reviewed practice	4.4	4.3	4.5	4.5	1.2	0.9
Program coherence	4.6	4.5	4.8	4.6	1.1	0.7
Technical resources	4.3	4.3	4.5	4.2	1.0	0.5
Anti-discriminatory teaching	5.1	5.2	5.6	5.2	1.1	0.6
Responsive pedagogy	4.8	5.1	5.2	5.1	1.2	0.4
Differentiated instruction	4.8	5.1	5.3	5.0	1.0	0.8
Student performance expectations	5.1	5.1	5.2	5.4	0.8	0.8
School C	*n*=27	*n*=17				
Collective teacher efficacy	4.7	4.9	4.7	5.0	0.7	0.6
Peer reviewed practice	4.5	4.4	4.5	4.6	0.8	0.9
Program coherence	4.7	4.5	4.7	4.3	0.5	0.8
Technical resources	4.0	4.0	4.1	4.0	0.8	0.8
Anti-discriminatory teaching	5.1	5.2	5.3	5.5	0.8	0.6
Responsive pedagogy	4.9	4.8	4.8	5.0	0.6	0.7
Differentiated instruction	4.8	5.0	4.9	4.9	0.8	0.6
Student performance expectations	4.8	5.1	4.9	5.1	0.9	0.6
School D	*n*=30	*n*=26				
Collective teacher efficacy	5.0	4.7	5.1	4.9	0.6	0.9
Peer reviewed practice	4.6	4.1	4.8	4.1	0.9	1.3
Program coherence	4.8	4.3	5.1	4.5	0.9	0.8
Technical resources	3.7	3.9	3.8	4.1	0.9	1.1
Anti-discriminatory teaching	5.4	5.0	5.6	5.4	0.7	1.2
Responsive pedagogy	5.1	4.9	5.3	5.2	0.7	0.9
Differentiated instruction	5.1	4.7	5.1	4.9	0.8	1.0
Student performance expectations	5.1	4.8	5.3	5.1	0.7	1.0
School E	*n*=25	*n*=19				
Collective teacher efficacy	4.5	4.3	4.3	4.5	0.9	1.0

Table 9 Descriptive Statistics for AEL MSCI Survey of Capacity for Improvement (continued)

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

Table 9 Descriptive Statistics for AEL MSCI Survey of Capacity for Improvement (continued)

	Mean		Median		Std. Dev.	
	2003	2004	2003	2004	2003	2004
Differentiated instruction		4.6		4.9		1.1
Student performance expectations		4.4		4.5		1.1
School I	**n=29**	**n=44**				
Collective teacher efficacy	4.3	4.1	4.5	4.2	1.0	0.9
Peer reviewed practice	4.2	4.1	4.3	4.3	1.1	1.1
Program coherence	4.2	4.0	4.5	4.1	1.1	0.9
Technical resources	3.8	3.8	3.9	4.1	1.0	1.1
Anti-discriminatory teaching	4.8	4.8	5.1	4.8	1.0	0.9
Responsive pedagogy	4.7	4.5	4.7	4.6	1.0	0.9
Differentiated instruction	4.3	4.3	4.5	4.3	1.1	0.9
Student performance expectations	4.3	4.2	4.3	4.3	1.2	1.0
School J	**n=90**	**n=41**				
Collective teacher efficacy	4.2	3.9	4.3	4.0	0.9	1.0
Peer reviewed practice	4.2	3.9	4.1	4.0	0.9	1.0
Program coherence	4.1	3.4	4.2	3.8	0.8	0.9
Technical resources	3.7	3.0	3.7	3.3	0.9	1.0
Anti-discriminatory teaching	4.8	4.4	4.8	4.9	0.8	1.1
Responsive pedagogy	4.4	4.1	4.5	4.5	0.8	1.1
Differentiated instruction	4.2	3.7	4.3	3.8	1.0	1.1
Student performance expectations	4.3	4.1	4.5	3.9	1.0	1.1
School K	**n=0**	**n=7**				
Collective teacher efficacy		4.6		4.8		0.5
Peer reviewed practice		4.1		4.0		0.7
Program coherence		3.2		3.1		0.7
Technical resources		3.1		3.0		0.4
Anti-discriminatory teaching		5.1		5.0		0.4
Responsive pedagogy		4.8		4.8		0.5
Differentiated instruction		4.8		4.9		0.6
Student performance expectations		4.7		4.9		0.7
School L	**n=7**	**n=0**				
Collective teacher efficacy	3.6	0.0	3.6	0.0	0.9	0.0
Peer reviewed practice	3.7	0.0	3.2	0.0	1.0	0.0

Table 9 Descriptive Statistics for AEL MSCI Survey of Capacity for Improvement (continued)

	Mean		Median		Std. Dev.	
	2003	2004	2003	2004	2003	2004
Program coherence	3.6	0.0	3.9	0.0	0.5	0.0
Technical resources	2.8	0.0	2.8	0.0	0.7	0.0
Anti-discriminatory teaching	4.8	0.0	4.7	0.0	0.8	0.0
Responsive pedagogy	4.6	0.0	5.3	0.0	1.2	0.0
Differentiated instruction	3.9	0.0	4.1	0.0	1.0	0.0
Student performance expectations	3.8	0.0	3.8	0.0	1.3	0.0

A total of 94 professional staff completed the MSCI survey in both 2003 and 2004. Summary statistics presented in Table 10 were compiled for the eight scales on the MSCI for the *t*-tests calculated. Table 11 shows that findings are significant for matched paired *t*-tests on three of the eight scales: program coherence, anti-discriminatory teaching, and responsive pedagogy. Because mean survey scores were higher in 2003 than in 2004, the statistical relationship shown for these three scales indicates a significant decrease in school capacity for improvement in these three areas when the school division as a whole is examined.

Table 10 Descriptive Statistics for Matched Pairs for AEL MSCI Survey of Capacity for Improvement

	Mean		Std. Dev.	
	2003	2004	2003	2004
Collective teacher efficacy	4.5	4.5	0.8	0.9
Peer reviewed practice	4.2	4.1	1.0	1.0
Program coherence	4.4	4.1	0.8	1.0
Technical resources	3.9	3.7	1.0	1.1
Anti-discriminatory teaching	5.1	4.9	0.8	0.9
Responsive pedagogy	4.8	4.6	0.8	0.8
Differentiated instruction	4.5	4.5	1.0	0.9
Student performance expectations	4.7	4.6	0.9	0.9

Table 11 Results of Paired *t*-Test and Cohen's *d* Estimates of Effect Size for AEL Measure of School Capacity for Improvement

	Paired Differences		Test Statistic	Two-tailed Significance	Effect Size (*d*)
	Mean	**Std. Dev.**			
Collective teacher efficacy	0.0	0.8	0.5	0.59	
Peer reviewed practice	0.1	0.9	1.0	0.30	
Program coherence	0.4	0.7	5.0	<.001	0.51
Technical resources	0.2	0.9	1.8	0.07	0.19
Anti-discriminatory teaching	0.2	0.8	2.3	0.02	0.24
Responsive pedagogy	0.2	0.7	2.8	<.001	0.25
Differentiated instruction	0.0	0.8	0.0	0.96	
Student performance expectations	0.0	0.8	1.0	0.34	

Note: The mean is based on the 2003-2004 value, so a positive mean indicates a decrease in subscale score. Significant values indicate that the mean is significantly different from zero and, in this case, indicate a significant decline in subscale score.

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 through 12. SOL tests cover English, mathematics, science, and history/social science. The Virginia Public Schools Web site indicates that materials examined represent a broad 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.[12]

For each school, SOL and end-of-course test results are reported in terms of the percentages of students passing (i.e., scoring at proficient or advanced) each subject area test. These pass rates are available from the VDOE Web site.[13]

To evaluate the impact of the Model IV Intervention program, the 10 Petersburg City Schools are paired with similar schools in the City of Richmond School Division. The Richmond City schools are the control 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 School Division 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— by grade and for each subject tested. Data used for this evaluation cover the five years prior to the school improvement intervention (1998, 1999, 2000, 2001, and 2002) and the first year of the three-year intervention period (2003) for which there are data. The purpose is to compare SOL results for the baseline years (1998 to 2002, before the intervention program) with the intervention year (2003) for those areas of student achievement targeted by the Petersburg City

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

[13] http://www.pen.k12.va.us/VDOE/Assessment/2002SOLpassrates.html

Schools' school improvement plan. The SOL pass rates are shown 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 I & II, geometry, U.S. History I & II, World History I & II, world geography, earth science, biology, and chemistry. Because school-level pass rates are used, inferential statistics and effect sizes could not be used. The intention is to compare trends in student performance across the years between each Petersburg school and its matched control school.

Table 12 shows changes in SOL pass rates for third-grade English, math, history, and science for Petersburg schools for the five years prior to the intervention (1998 to 2002) and Model IV Intervention year (2003). Comparable SOL data for the comparison schools are also indicated.

Table 12 Changes in Percentages 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
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%
School A Control	37.0	30.4	24.5	53.7	43.6	6.7	18.1%	40.7	-3.0	-6.8%
School B			33.3	19.6	38.9			59.3	20.4	52.4%
School B Control	38.8	48.9	25.9	47.1	39.3	0.5	1.3%	33.3	-6.0	-15.2%
School C	20.3	26.6	35.3	24.2	45.7	25.4	125.0%	36.1	-9.5	-20.9%
School C Control	18.6	11.4	16.1	23.5	38.8	20.2	108.4%	50.0	11.2	28.9%
School D	43.8	34.2	26.4	27.3	45.7	1.9	4.4%	41.0	-4.7	-10.3%
School D Control	19.0	31.0	38.3	31.4	78.2	59.1	310.5%	70.4	-7.8	-10.0%
School E	28.7	45.9	55.2	28.8	44.1	15.3	53.4%	51.1	7.0	15.9%
School E Control	37.8	17.2	13.8	10.7	45.1	7.3	19.4%	53.2	8.1	17.9%
School F	30.1	35.9	33.1	39.6	53.7	23.6	78.5%	56.7	3.0	5.6%
School F Control	33.3	60.7	42.1	41.4	67.2	33.9	101.7%	63.8	-3.5	-5.2%
School G	20.0	20.6	12.3	16.7	39.7	19.7	98.3%	49.0	9.3	23.5%
School G Control	33.3	33.9	25.0	21.2	28.9	-4.4	-13.3%	36.5	7.6	26.5%
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%
School A Control	34.8	37.5	47.2	51.9	69.5	34.7	99.8%	91.9	22.4	32.3%
School B			35.2	30.4	22.6			74.1	51.4	227.2%
School B Control	50.0	55.3	38.2	50.0	34.4	-15.6	-31.1%	47.6	13.2	38.3%
School C	44.9	27.8	47.1	36.4	39.1	-5.8	-12.9%	57.1	18.0	46.0%
School C Control	32.6	13.3	12.9	31.4	47.3	14.7	45.2%	70.8	23.6	49.8%
School D	48.0	30.2	33.8	38.6	41.3	-6.8	-14.1%	53.5	12.2	29.7%
School D Control	12.2	27.6	40.3	50.0	58.9	46.7	383.2%	78.6	19.6	33.3%
School E	50.0	45.9	59.3	36.1	47.5	-2.5	-5.1%	68.1	20.6	43.5%

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Table 12 Changes in Percentages of Students Passing SOLs for Third-Grade Subjects (continued)

	Baseline							Intervention		
	1998	1999	2000	2001	2002	1998-2002 change	1998-2002 % change	2003	2002-2003 change	2002-2003 % change
Third-Grade Math										
School E Control	34.8	17.2	20.6	27.1	61.2	26.4	76.0%	64.0	2.8	4.5%
School F	46.4	34.0	33.8	44.4	66.7	20.2	43.6%	62.0	-4.7	-7.0%
School F Control	46.7	50.8	57.9	54.8	75.9	29.2	62.6%	80.8	5.0	6.5%
School G	38.5	25.0	20.3	31.1	42.9	4.4	11.4%	61.2	18.4	42.9%
School G Control	37.8	37.5	41.7	37.0	37.8	0.0	0.0%	60.7	22.9	60.6%
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%
School A Control	8.7	20.0	17.0	43.6	52.7	44.0	506.4%	87.9	35.2	66.8%
School B			16.7	23.9	46.3			75.9	29.6	64.0%
School B Control	52.0	47.8	43.6	51.0	40.0	-12.0	-23.1%	35.3	-4.7	-11.8%
School C	14.5	24.1	52.9	42.4	56.5	42.0	290.0%	33.3	-23.2	-41.0%
School C Control	16.3	2.3	3.2	51.0	47.9	31.6	194.3%	60.4	12.5	26.1%
School D	31.5	21.6	18.1	25.8	39.5	8.0	25.3%	62.4	22.8	57.8%
School D Control	9.4	24.4	37.1	41.1	71.4	62.0	658.9%	74.5	3.1	4.4%
School E	38.6	41.7	42.4	25.4	27.6	-11.1	-28.6%	59.6	32.0	116.0%
School E Control	26.7	14.1	27.3	32.1	56.3	29.6	110.9%	85.1	28.9	51.3%
School F	27.5	33.3	26.9	45.1	54.3	26.8	97.5%	64.2	9.9	18.3%
School F Control	26.7	35.0	67.8	78.0	76.7	50.0	187.5%	83.3	6.7	8.7%
School G	12.3	19.4	10.2	8.2	38.6	26.3	213.6%	55.1	16.5	42.8%
School G Control	25.0	38.6	33.3	43.6	24.4	-0.6	-2.2%	36.7	12.2	50.0%
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%
School A Control	21.7	25.0	35.8	47.3	44.4	22.7	104.4%	96.6	52.1	117.2%
School B			33.3	30.4	35.2			70.4	35.2	100.0%
School B Control	55.3	36.2	41.5	51.9	43.4	-11.9	-21.6%	39.0	-4.4	-10.1%
School C	34.8	25.3	55.9	27.3	47.8	13.0	37.5%	57.1	9.3	19.5%
School C Control	26.2	4.8	24.2	49.0	60.4	34.2	130.7%	66.7	6.3	10.3%
School D	40.4	26.4	28.8	31.5	38.1	-2.3	-5.7%	60.7	22.6	59.4%
School D Control	21.4	35.6	54.1	46.4	68.3	46.9	218.9%	82.1	13.8	20.2%
School E	39.4	58.3	57.6	38.1	41.4	2.0	5.1%	60.8	19.4	46.9%
School E Control	34.9	12.5	27.7	30.2	49.0	14.1	40.4%	66.7	17.7	36.1%
School F	42.0	37.9	29.2	47.2	61.7	19.7	47.1%	64.2	2.5	4.0%
School F Control	31.1	55.0	53.4	61.0	82.8	51.6	166.0%	76.7	-6.0	-7.3%
School G	23.1	17.9	10.2	24.6	49.1	26.0	112.9%	58.8	9.7	19.7%
School G Control	37.8	32.1	37.5	24.5	37.8	0.0	0.0%	47.3	9.5	25.1%

At the third-grade level, during the first year of Model IV Intervention, the following trends were found:

- 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.

- 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.

- 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.

- All elementary schools show gains in the percentages of students passing science SOLs.

Comparisons in SOL test results between third graders in Richmond control schools and third graders in Petersburg schools during the first intervention year produced the following results:

- 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.

- Petersburg elementary schools B and E show a greater increase in the percentages of students passing SOLs in math.

- Petersburg elementary schools B, D, E, and F show a greater increase in the percentages of students passing SOLs in history.

Table 13 shows changes in SOL pass rates for fifth-grade English, math, history, and science for Petersburg schools for the five years prior to the intervention (1998 to 2002) and the Model IV Intervention year (2003). Comparable SOL data for the comparison schools are also indicated.

Table 13 Changes in Percentages 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
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%
School A Control	33.3	41.2	44.2	57.4	59.6	26.2	78.7%	87.2	27.7	46.4%
School B			76.7	63.3	70.0			73.6	3.6	5.1%
School B Control	61.9	83.3	47.2	82.5	69.8	7.9	12.7%	89.2	19.4	27.8%
School C	26.2	55.2	50.0	68.8	56.9	30.7	117.1%	41.8	-15.0	-26.5%
School C Control	32.7	56.3	48.6	39.4	35.4	2.8	8.5%	60.5	25.0	70.7%
School D	39.1	63.7	53.8	54.3	39.1	0.0	0.0%	50.0	10.9	28.0%
School D Control	47.7	56.1	67.8	95.3	60.9	13.2	27.7%	84.1	23.2	38.1%
School E	48.2	60.4	65.2	80.0	55.1	6.9	14.3%	45.3	-9.8	-17.8%
School E Control	14.6	50.0	42.9	30.4	32.4	17.8	122.4%	45.8	13.4	41.3%
School F	38.5	60.6	65.8	66.9	65.2	26.7	69.3%	73.3	8.0	12.3%
School F Control	41.5	69.2	86.9	89.7	79.4	37.9	91.3%	82.8	3.3	4.2%
School G	31.3	67.6	76.9	58.5	51.8	20.5	65.7%	52.0	0.2	0.4%
School G Control	41.7	73.8	54.8	59.2	40.5	-1.2	-2.9%	68.9	28.4	70.2%
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%
School A Control	26.0	28.0	21.4	35.2	41.3	15.3	58.9%	72.9	31.6	76.5%
School B			50.0	38.3	52.6			51.9	-0.7	-1.3%
School B Control	38.1	40.0	26.4	61.0	48.7	10.6	27.9%	76.3	27.6	56.6%
School C	30.0	41.7	30.0	34.4	50.9	20.9	69.6%	35.7	-15.2	-29.8%
School C Control	26.0	20.4	22.5	34.4	25.9	-0.1	-0.5%	84.4	58.6	226.5%
School D	53.3	49.5	32.5	25.6	34.8	-18.5	-34.7%	38.7	3.8	11.0%
School D Control	36.0	37.5	36.7	56.3	46.5	10.6	29.4%	71.7	25.2	54.2%
School E	51.7	58.7	31.8	42.0	27.7	-24.1	-46.5%	43.4	15.7	56.9%
School E Control	13.3	18.2	17.2	20.4	11.4	-2.0	-14.8%	42.0	30.6	269.6%
School F	44.2	43.5	21.6	32.8	53.4	9.3	21.0%	78.4	25.0	46.7%
School F Control	48.1	29.4	71.7	41.4	78.0	29.9	62.2%	60.7	-17.3	-22.1%
School G	32.3	57.1	29.7	33.3	32.2	-0.1	-0.3%	56.9	24.7	76.6%
School G Control	25.4	25.6	36.6	33.3	34.1	8.7	34.1%	59.6	25.5	74.8%
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%
School A Control	14.0	2.0	23.8	14.8	60.9	46.9	334.8%	79.2	18.4	30.2%
School B	.	.	45.2	25.5	17.9			32.1	14.2	79.6%
School B Control	25.6	40.0	32.1	41.5	59.0	33.4	130.5%	75.0	16.0	27.2%
School C	10.0	5.0	17.5	25.0	24.6	14.6	145.6%	21.4	-3.1	-12.8%
School C Control	26.0	4.1	20.5	28.1	28.0	2.0	7.7%	74.0	46.0	164.3%
School D	18.7	11.1	37.0	17.8	13.4	-5.2	-28.1%	40.3	26.8	199.8%
School D Control	18.2	14.1	25.0	52.9	63.6	45.5	250.0%	71.4	7.8	12.2%

Table 13 Changes in Percentages of Students Passing SOLs for Fifth-Grade Subjects (continued)

	Baseline							Intervention		
	1998	1999	2000	2001	2002	1998-2002 change	1998-2002 % change	2003	2002-2003 change	2002-2003 % change
School E	25.9	28.3	22.7	29.4	32.6	6.7	26.1%	35.8	3.2	9.9%
School E Control	10.9	4.7	16.9	10.2	16.2	5.3	49.2%	16.4	0.1	0.9%
School F	13.1	8.3	19.0	23.9	37.6	24.5	186.8%	50.9	13.3	35.5%
School F Control	9.6	19.6	69.4	41.4	86.2	76.6	796.6%	40.0	-46.2	-53.6%
School G	6.2	18.4	10.9	12.3	11.5	5.3	86.5%	73.1	61.6	536.8%
School G Control	11.9	20.9	43.9	31.3	31.1	19.2	162.2%	72.9	41.8	134.4%
Fifth-Grade History										
School A	11.8	11.6	0.0	6.8	27.8	16.0	136.1%			
School A Control	8.0	4.0	6.1	5.2	56.6	48.6	607.5%	84.6	28.0	49.5%
School B			5.5	15.8	41.4					
School B Control	9.3	22.9	16.2	19.2	29.2	19.9	214.2%	69.0	39.8	136.2%
School C	5.0	7.9	28.6	57.1	46.2	41.2	823.1%			
School C Control	2.0	2.0	5.1	27.6	48.8	46.8	2341.9%	72.5	23.7	48.5%
School D	4.5	13.0	16.0	6.9	23.5	19.0	421.9%			
School D Control	7.9	4.7	15.0	26.7	67.2	59.4	754.9%	89.6	22.3	33.2%
School E	32.8	25.2	8.6	17.4	35.5	2.7	8.3%			
School E Control	4.4	9.1	0.9	0.0	13.5	9.0	202.9%	38.1	24.6	183.0%
School F	5.6	8.6	4.2	31.2	67.9	62.2	1102.0%			
School F Control	17.3	20.8	21.7	37.3	59.3	42.0	242.7%	90.5	31.2	52.5%
School G	3.1	19.9	7.9	6.5	6.3	3.3	106.4%			
School G Control	1.7	27.9	15.0	18.6	30.8	29.1	1715.4%	21.6	-9.1	-29.7%
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%
School A Control	20.0	12.0	9.5	28.3	37.0	17.0	84.8%	87.5	50.5	136.8%
School B			45.2	25.5	21.4			34.6	13.2	61.5%
School B Control	20.9	57.1	25.5	58.5	50.0	29.1	138.9%	57.9	7.9	15.8%
School C	20.0	18.3	15.0	37.5	24.6	4.6	22.8%	21.8	-2.7	-11.2%
School C Control	18.4	14.3	5.0	31.3	38.0	19.6	106.9%	42.3	4.3	11.3%
School D	25.9	25.8	27.8	44.4	22.1	-3.8	-14.8%	47.9	25.9	117.4%
School D Control	30.7	18.8	18.3	72.5	54.3	23.7	77.1%	76.6	22.2	40.9%
School E	40.4	42.2	21.5	47.1	22.4	-17.9	-44.4%	28.3	5.9	26.1%
School E Control	9.1	13.6	3.5	21.3	10.5	1.4	15.8%	38.0	27.5	261.0%
School F	28.2	27.5	13.8	50.0	47.4	19.1	67.8%	51.5	4.1	8.7%
School F Control	28.8	30.2	59.7	51.4	72.6	43.7	151.6%	59.4	-13.2	-18.2%
School G	20.3	36.8	14.1	31.6	30.0	9.7	47.7%	73.6	43.6	145.3%
School G Control	18.6	21.4	29.3	34.8	24.4	5.8	31.1%	52.7	28.3	115.7%

Table 13 shows generally positive gains in the percentages of fifth-grade students passing SOLs in each subject during the Model IV Intervention year (2003). However, Schools A, C, and E show decreases in pass rates for the writing SOL test, and Schools B and C show decreases in pass rates for the English SOL test. In addition, School C shows decreases in the percentages of students passing SOLs in math and science.

For the fifth-grade SOLs, 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 history SOLs are incomplete.

Table 14 shows changes in SOL pass rates for Petersburg schools eighth-grade writing, English, math, history, and science Petersburg schools' for the five years prior to the intervention (1998 to 2002) and the Model IV Intervention period (2003). Comparable SOL data for the comparison schools are also indicated.

Table 14 Changes in Percentages 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
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%
School H Control	41.1	45.5	44.7	47.3	46.1	5.0	12.3%	51.9	5.8	12.6%
School I				58.8	59.4			52.1	-7.3	-12.3%
School I Control	50.3	38.2	58.2	43.7	61.2	10.9	21.7%	72.0	10.8	17.6%
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%
School H Control	35.6	32.9	39.8	46.1	41.0	5.4	15.2%	37.2	-3.8	-9.2%
School I				42.4	50.6			42.7	-7.9	-15.7%
School I Control	50.8	39.8	46.6	48.7	66.7	15.9	31.3%	67.1	0.5	0.7%
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%
School H Control	15.7	22.3	18.6	25.5	26.5	10.8	68.6%	49.7	23.3	87.9%
School I				21.3	35.2			52.7	17.5	49.8%
School I Control	28.1	25.3	26.8	39.6	66.3	38.1	135.6%	78.9	12.7	19.2%
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 Control	6.8	4.0	7.6	5.0	22.6	15.8	231.9%	40.1	17.5	77.5%

Table 14 Changes in Percentages of Students Passing SOLs for Eighth-Grade Subjects (continued)

	Baseline							Intervention		
	1998	1999	2000	2001	2002	1998-2002 change	1998-2002 % change	2003	2002-2003 change	2002-2003 % change
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%
School H Control	30.3	39.2	39.5	44.9	53.1	22.8	75.1%	53.3	0.2	0.5%
School I				51.5	56.7			47.3	-9.4	-16.6%
School I Control	50.3	54.7	62.4	59.1	81.8	31.5	62.7%	73.6	-8.2	-10.0%

Table 14 shows the following:

- decreases in the percentages of Petersburg's eighth-grade students who passed the SOL tests in writing, English, and science SOLs during the Model IV Intervention year

- increases in the percentages of Richmond eighth-grade students who passed the writing SOL test; however, this varies for the School H control school, which also shows a decrease in pass rate percentages for English, and for comparison School I, which shows a percentage decrease for students who passed science SOLs during the Intervention year

- gains in pass rate percentages for the 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.

Table 15 shows changes in SOL pass rates for high school tests in writing, English, Algebra I, geometry, Algebra II, U.S. History, World History I, World History II, Earth science, biology, and chemistry for Petersburg schools for the five years prior to the intervention (1998 to 2002) and the Model IV Intervention year (2003). Comparable SOL data for the control schools are also indicated.

Table 15 Changes in Percentages 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
Writing										
School J	53.6	67.7	81.1	79.2	78.5	24.9	46.5%	87.9	9.4	12.0%
School J Control	44.8	53.4	50.0	55.8	65.0	20.2	45.0%	82.7	17.8	27.3%
English										
School J	56.5	56.0	63.6	74.5	81.5	25.0	44.3%	89.1	7.5	9.2%
School J Control	59.4	41.4	41.8	65.4	78.0	18.6	31.3%	91.4	13.5	17.3%
Algebra										
School J	6.6	1.6	8.8	8.6	17.8	11.2	171.3%	44.7	26.9	151.0%
School J Control	1.1	3.4	2.6	7.2	24.0	22.9	2156.1%	50.8	26.8	111.5%
Geometry										
School J	7.3	19.3	20.8	25.0	30.1	22.8	311.0%	37.8	7.7	25.5%
School J Control	10.3	4.8	8.8	14.2	32.9	22.6	218.7%	50.0	17.1	52.0%
Algebra II										
School J	3.6	2.3	8.5	14.6	16.9	13.4	377.1%	44.4	27.5	162.4%
School J Control	1.4	1.3	1.0	12.0	27.6	26.1	1801.9%	34.5	7.0	25.3%
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%
World History I										
School J			33.2	37.8	48.3			50.2		
School J Control					66.7					
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%
School J Control	3.8	9.9	4.2	83.3	39.5	35.8	953.5%	38.3	-1.2	-3.1%
Earth Science										
School J	25.3	22.6	30.2	32.7	23.3	-2.0	-8.0%	48.9	25.6	110.0%
School J Control	10.8	20.0	21.4	25.0	38.6	27.8	257.9%	53.2	14.7	38.0%

Table 15 Changes in Percentages of Students Passing SOLs for High School Subjects (continued)

	Baseline							Intervention		
	1998	**1999**	**2000**	**2001**	**2002**	**1998-2002 change**	**1998-2002 % change**	**2003**	**2002-2003 change**	**2002-2003 % change**
Biology										
School J	37.7	49.1	54.4	42.5	54.2	16.5	43.9%	46.8	-7.4	-13.6%
School J Control	29.8	44.1	39.4	45.3	60.3	30.4	102.0%	58.5	-1.8	-3.0%
Chemistry										
School J	17.2	12.3	16.6	24.2	15.7	-1.5	-9.0%	40.9	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%

Table 15 shows increased percentages of students passing all high school SOL tests during the Model IV Intervention period except for the biology SOLs. 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 schools except in writing, English, and geometry.

Appendix 2 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 intervention program. The data used in these charts represent an average of the scores for each school district, and for each SOL test and year combination.

An example is presented below in Figure 1, which displays the average SOL pass rates for all seven elementary schools in the Petersburg school system and for their comparison schools in the Richmond Division for the third-grade science SOL test. A least-squares linear trend (for the entire period from 1998 to 2003) is plotted for the Richmond comparison schools. For the Petersburg schools, a least-squares linear trend is plotted for the pre-intervention period (1998 to 2002) and for the intervention year 2003 from the year prior (2002).
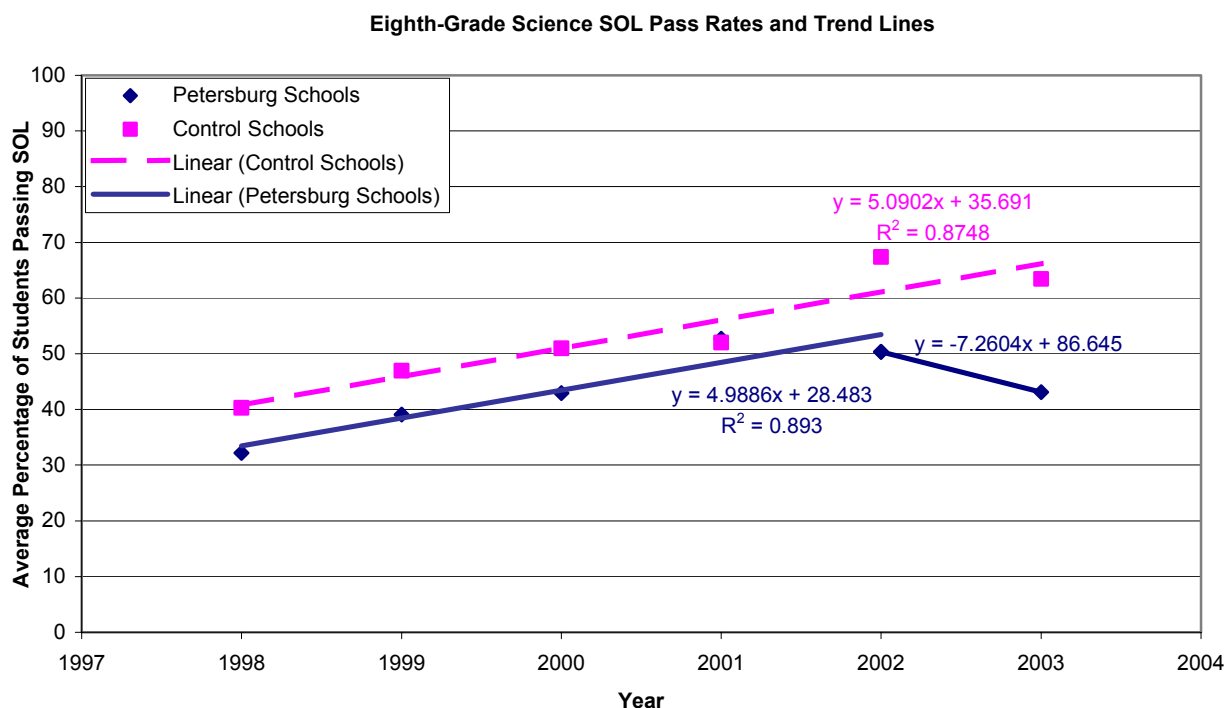
Eighth-Grade Science SOL Pass Rates and Trend Lines

Figure 1. Third-grade science SOL test trends for Petersburg and control schools.

The trend lines in Figure 1 show that, for the Richmond control schools, there has been a steady improvement in student pass rate averages for the third-grade science SOL test. The coefficient of determination (i.e., *R*-square statistic) for the Richmond schools' trend line is 0.9, suggesting a high degree of correlation between the actual scores and the linear trend line. However, because we are not using these trends to forecast scores but instead to visualize trends—pre-intervention and during intervention—we concentrate on the relative slopes of the trends and the extent to which the Petersburg schools exhibit a marked improvement in the scores during the intervention year. Accordingly, we observe that for this SOL test (third-grade science), the Petersburg schools have demonstrated a marked improvement in the pass rates for this SOL test, and that the trend in improvements is markedly higher during the intervention year than during the pre-intervention period (as demonstrated by the increased slope of the intervention period trend line for Petersburg schools).

Charts for each of the SOL subject tests averaged for grades (except high school) are presented in Appendix 2. In summary, these charts demonstrate the following:

- Third-grade SOL tests: The difference in achievement between Petersburg schools and Richmond control schools appears to be lessening, with Petersburg schools making

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larger gains and, hence, approximating the achievement of the Richmond controls.

- Fifth-grade SOL tests: Results are mixed and should be examined individually.

- Eighth-grade SOL tests: Math and history pass rates for Petersburg schools were generally lower than the control group during the pre-intervention period; however, notable gains have been made and the differences between Petersburg and the Richmond control are becoming smaller.

- High school SOL tests: Petersburg pass rates were generally higher than the Richmond control pass rates during the pre-intervention period. Both high schools (Petersburg and the Richmond control) made gains in all subject areas. Petersburg achievement is not increasing at a greater rate than Richmond City, but neither is it losing ground.

Conclusions and recommendations

Conclusions

Role of the school improvement specialists

The school improvement specialists are the facilitators of the *PA+SS* Model IV Intervention. In the first two years of the intervention, these same seven school improvement specialists have worked closely with school leaders, instructional personnel, and the central office to foster adoption of a meaningful SIP and the use of data to guide instructional decisions. The difficulties they encountered have 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 significant amount of time to become sustainable. 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 the time of our interviews, 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 was 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. One 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 "chemistry" between the school improvement specialist and the principal is vital to success. School improvement specialists should be chosen for their tact and ability to perform effectively in an ill-defined role, as well as for their prior successes as educators.

Several of the school improvement specialists commented on the problem of sustainment. 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 Petersburg School System's policy of allowing teachers to be on staff for up to three years before acquiring state certification have exacerbated this problem.[14] 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 three 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." 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.

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 fodder for hope in districts with systemwide deficiencies. If the school improvement specialist program, with the support of the superintendent, is able to get the culture turned around so that 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.

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

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 representatives from the school improvement team. Yet involving parents is a key ingredient to school improvement.[15]

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' SIPs 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 their 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 stressed 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

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[15] 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.

to the schools' SIPs, it becomes apparent that whereas 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 AR (i.e., records documentation and data/measures [benchmark data] relevant to areas of improvement to indicate progress).

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. "Instead of using them [SIPs], they [principals] put them on shelves where they [SIPs] were traditionally not used."

The school improvement specialists referred to the short time frame during which the SIPs 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 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 two 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 SOL scores will improve. The central office school improvement specialist points out that "the challenge is to simply make the SIP more meaningful."

School culture and capacity for improvement

Dimensions of school culture and capacity for improvement show significant increases in school improvement for climate on 5 of 6 CSIQ dimensions, but capacity for improvement decreased significantly on 3 of 8 MSCI dimensions. The CSIQ shows that perceived changes in school culture are readily apparent when 2002 and 2004 data are compared. However, changes in capacity for improvement show that professional staffs are less satisfied in 2004 than they were in 2003. On an intuitive level, this is to be expected. A more favorable school climate and culture might well be the harbingers of overall capacity for school improvement.

In the elementary schools, there are a few exceptions to this general finding. The CSIQ shows that Schools B, D, and G display the highest mean percentile scores for 2004 on the learning culture scale: 49.4, 50.3, and 49.6, respectively. Schools B, D, and G each show a consistently upward trend in mean percentile scores on the shared goals for learning in 2004: School B (50.0), School D (51.9), and School G (49.7). Schools B, D, and G show the highest mean percentile scores of all elementary schools on the purposeful student assessment scales during 2004 (51.0, 50.9, and 49.2, respectively). These are interesting findings, particularly in terms of School B where the school improvement specialist reports that the school experienced high staff turnover. Schools B, D, and G showed increasing mean scores in 2004 on three to four of the eight MSCI scales, albeit not necessarily the same scales.

According to some scales on the CSIQ, School B is proceeding well and, according to its principal, School B is closer than other elementary schools to getting school accreditation. This is occurring in the face of School B's SIP having been evaluated as one of the most poorly documented plans at the elementary school level. As of March 17, 2004, the SIP had not been revised because teacher input had not been received. However, the school improvement specialist reports that staff members do not appear to value the SIP and/or test data. Also, the school improvement specialist had sporadic problems both in connecting with the principal and with the instructional specialist not fully understanding her role. In general, the school improvement specialist's impression at School B indicated that staff felt no urgency to get anything done.

School E tends to show overall mean percentile scores on most CSIQ scales, hovering between the 30 and 39 percentile range. Compared to other schools, this range tends to be low and speaks to the issue of School E's weak administrative team.

Standards of Learning

Notable changes in the percentages of students passing the SOLs are occurring throughout Petersburg Schools. In general, there are positive gains in the percentages of fifth-grade students passing SOLs in each subject during the Model IV Intervention period. However, there are exceptions to this finding for Schools A and C, which show decreased percentages of students passing the writing SOL, and for Schools B and C which show decreased percentages of students passing the English SOL. In addition, decreases in the percentages of students passing SOLs in math and science continue

to be a problem for School C. The School C school improvement specialist said that her biggest disappointment this past year was "the lack of progress School C students made on the SOLs." The school improvement specialist believes School C teachers are "buying into the Model IV Intervention, but the students aren't there yet." She is hoping for larger gains in School C SOL test results in 2005. All of the mean percentile scores on the CSIQ scales for school climate at School C have increased during the Model IV Intervention period. If increased school climate is an indicator of expected increases in capacity for school improvement, then perhaps this may foretell improvement in SOL test scores.

At the eighth-grade level, Petersburg students show gains in the pass rates for math and history SOLs, although these gains appear to be smaller than those for the Richmond control schools. Part of the issue regarding lower percentage changes for 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. Not only was the administration in flux, classroom management was an issue. To address this issue, the school improvement specialist reported that during the first 45 days of the 2004–2005 school year (the third year of the study), teachers would need to become more engaged with the overall management of school classrooms and use the Harry Wong Classroom Management Style.[16] 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 School J students passing the SOLs from 1998 to 2001, that is, prior to the Model IV Intervention. These increasing percentages are continuing to occur, with the exception of biology, during the Model IV Intervention period. However, the school improvement specialist reports that the benchmark-testing program was not implemented in School J. With the hope that benchmark testing will be implemented in School J, SOL test scores appear to be on track for improvement. One may speculate about whether the school improvement specialist's concern about the high level of mistrust between School J and the central office may have thwarted benchmark testing; nevertheless, the high level of mistrust may stand in the way of general progress toward school improvement, and this

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[16] http://www.glavac.com/harrywong.htm

bothers the school improvement specialist. Within School J, teachers responded favorably about the school's culture on the AEL CSIQ. The school's mean percentile scores on the AEL CSIQ scales show improvement from 2002 to 2004 even though the AEL MSCI mean scores decrease somewhat on all AEL MSCI scales in 2004 from 2003. This finding may be indicative of the high staff turnover mentioned by the school improvement specialist.

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 control schools. For the Petersburg schools, a least-squares linear trend is plotted for the pre-intervention period (1998 to 2002) and for the intervention period (2002 to 2003). Petersburg schools are making gains in student achievement, often approximating or even exceeding the rate of gain of the matched Richmond control schools.

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

Recommendations

The school instructional specialist could play a key role in the sustainability of improvement efforts over time.[17] Ideally, this individual will provide continuity in data expertise and be available both to provide instruction in data analysis and to perform data analysis as needed. Institutionalizing this position, 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. Therefore, the school improvement specialists should continue to train instructional specialists in data analysis throughout the three-year Model IV Intervention.

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[17] The school instructional specialist should not be confused with the school improvement specialist.

Because the role of the parent is critical to student success, all principals should be required to include parent representatives on each school improvement committee to help develop each school's SIP.

The Model IV Intervention innovation of assigning a senior school improvement specialist to the central office appears to be having some positive effects in the Petersburg Division, based on interview, survey, and achievement data. Therefore, the intervention team should work with the Division to ensure that the specialist's responsibilities are picked up, either by creating a permanent position or by assigning these responsibilities to another central office staff member who has the necessary qualifications.

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.

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.

Because an increasingly favorable school culture might well be a harbinger of the capacity for improvement, it will be important to measure staff perceptions in spring 2005 to determine whether the schools continue to develop cultures of continuous improvement and capacity for improvement.

Instructional specialists need to place more emphasis on building capacity among the professional teaching staff by stressing the alignment of curriculum with the SOLs and using the evidence-based practices available to them for this purpose. According to one district leader, the Petersburg school division's most pressing need continues to be having in place "an effectively organized curriculum delivery system."

Appendixes

Appendix 1 – Rubric

SCHOOL-LEVEL ACADEMIC REVIEW

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

Page 1 of 7

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

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 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							

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

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

Indicators	Sources of Evidence				Significant Findings	AOS	AI
Do NOT reword the indicator in the report. Include a clarifying comment if the indicator, as written, does not "fit".	Self-Study	Doc	Int	Obs	If indicator is cited as AOS or AI, or both, the team's Significant Findings must be provided below.		
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							

Indicators	Sources of Evidence				Significant Findings	AOS	AI
Do NOT reword the indicator in the report. Include a clarifying comment if the indicator, as written, does not "fit".	Self-Study	Doc	Int	Obs	If indicator is cited as AOS or AI, or both, the team's Significant Findings must be provided below.		
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							

A1-5

Indicators	Sources of Evidence				Significant Findings	AOS	AI
Do NOT reword the indicator in the report. Include a clarifying comment if the indicator, as written, does not "fit".	Self-Study	Doc	Int	Obs	If indicator is cited as AOS or AI, or both, the team's Significant Findings must be provided below.		
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: __ __ __ -- __ __ __ __
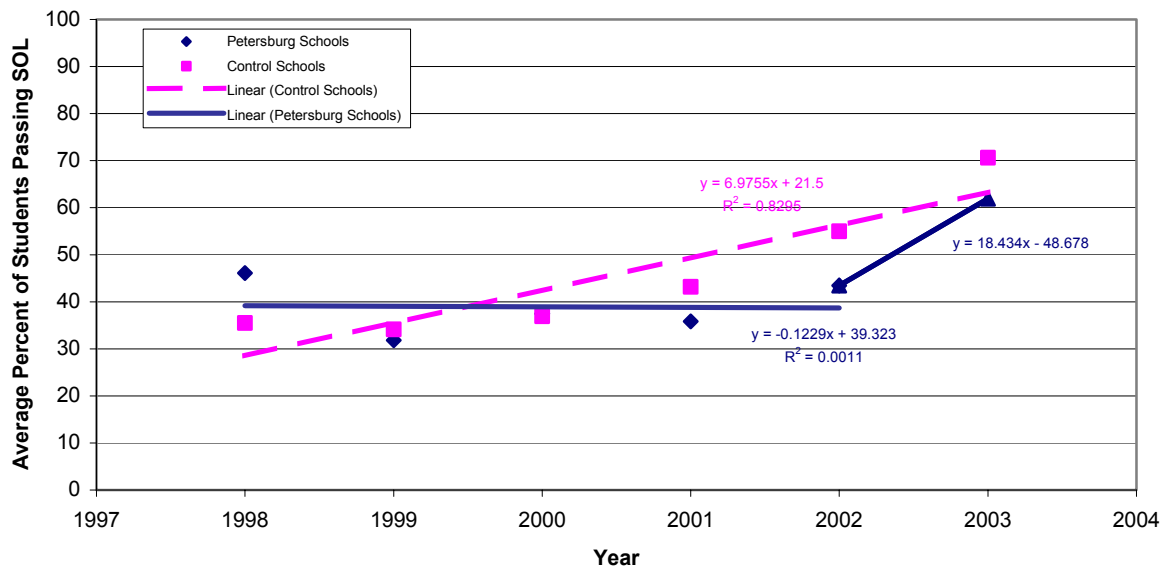
Date of Visit:_____

NOTES:

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

Appendix 2 – Trend lines for average percentages of students passing SOL tests

Third-Grade English SOL Pass Rates and Trend Lines

$y = 4.1472x + 22.512$
$R2 = 0.6346$

$y = 3.8329x + 24.587$

$y = 2.4827x + 24.96$
$R2 = 0.3418$

- Petersburg Schools
- Control Schools
- Linear (Control Schools)
- Linear (Petersburg Schools)

Average Percent of Students Passing SOL

Year

Third-Grade Math SOL Pass Rates and Trend Lines

$y = 6.9755x + 21.5$
$R^2 = 0.8295$

$y = 18.434x - 48.678$

$y = -0.1229x + 39.323$
$R^2 = 0.0011$

- Petersburg Schools
- Control Schools
- Linear (Control Schools)
- Linear (Petersburg Schools)

Average Percent of Students Passing SOL

Year

A2-2

Third-Grade History SOL Pass Rates and Trend Lines

y = 8.8396x + 10.713
R² = 0.959

y = 14.718x - 29.669

y = 3.7205x + 19.532
R² = 0.5773

- ◆ Petersburg Schools
- ■ Control Schools
- Linear (Control Schools)
- Linear (Petersburg Schools)

Third-Grade Science SOL Pass Rates and Trend Lines

y = 7.4438x + 18.601
R² = 0.9007

y = 18.457x - 48.074

y = 2.0819x + 29.351
R² = 0.4253

- ◆ Petersburg Schools
- ■ Control Schools
- Linear (Control Schools)
- Linear (Petersburg Schools)

A2-3

Fifth-Grade Writing SOL Pass Rates and Trend Lines

Average Percent of Students Passing SOL vs. Year

$y = 4.6188x + 42.069$
$R^2 = 0.536$

$y = 5.2227x + 40.34$
$R^2 = 0.4931$

$y = -2.0474x + 68.611$

Legend:
- Petersburg Schools
- Control Schools
- Linear (Control Schools)
- Linear (Petersburg Schools)

Fifth-Grade English SOL Pass Rates and Trend Lines

Average Percent of Students Passing SOL vs. Year

Legend:
- Petersburg Schools
- Control Schools
- Linear (Control Schools)
- Linear (Petersburg Schools)

$y = 6.4643x - 12892$
$R^2 = 0.7376$

$y = 9.1624x - 3.2956$

$y = -1.5815x + 44.17$
$R^2 = 0.1553$

A2-4

Fifth-Grade Math SOL Pass Rates and Trend Lines

y = 9.273x + 2.0029
$R^2 = 0.9141$

y = 19.371x - 74.199

y = 1.9427x + 14.034
$R^2 = 0.399$

Legend:
- ◆ Petersburg Schools
- ■ Control Schools
- – – Linear (Control Schools)
- —— Linear (Petersburg Schools)

X-axis: Year
Y-axis: Average Percent of Students Passing SOL

Fifth-Grade History SOL Pass Rates and Trend Lines

y = 11.321x - 12.768
$R^2 = 0.8214$

y = 5.5954x + 1.3468
$R^2 = 0.7061$

Legend:
- ◆ Petersburg Schools
- ■ Control Schools
- – – Linear (Control Schools)
- —— Linear (Petersburg Schools)

X-axis: Year
Y-axis: Average Percent of Students Passing SOL

A2-5

Fifth-Grade Science SOL Pass Rates and Trend Lines

Legend:
- Petersburg Schools
- Control Schools
- Linear (Control Schools)
- Linear (Petersburg Schools)

$y = 7.5298x + 8.5071$
$R^2 = 0.8405$

$y = 15.008x - 48.861$

$y = 0.9584x + 24.929$
$R^2 = 0.0573$

Y-axis: Average Percent of Students Passing SOL
X-axis: Year

Eighth-Grade Writing SOL Pass Rates and Trend Lines

Legend:
- Petersburg Schools
- Control Schools
- Linear (Control Schools)
- Linear (Petersburg Schools)

$y = 3.164x + 38.941$
$R^2 = 0.6648$

$y = 3.257x + 36.954$
$R^2 = 0.5369$

$y = -5.2269x + 73.811$

Y-axis: Average Percent of Students Passing SOL
X-axis: Year

A2-6

Eighth-Grade English SOL Pass Rates and Trend Lines

Legend:
- ♦ Petersburg Schools
- ■ Control Schools
- ♦ Petersburg Schools
- Linear (Control Schools)
- Linear (Petersburg Schools)
- Linear (Petersburg Schools)

$y = 2.9053x + 35.844$
$R^2 = 0.7003$

$y = -8.5416x + 86.727$

$y = 1.9964x + 35.436$
$R^2 = 0.3813$

Y-axis: Average Percent of Students Passing SOL
X-axis: Year

Eighth-Grade Math SOL Pass Rates and Trend Lines

Legend:
- ♦ Petersburg Schools
- ■ Control Schools
- Linear (Control Schools)
- Linear (Petersburg Schools)

$y = 8.2781x + 6.298$
$R^2 = 0.8303$

$y = 13.733x - 40.248$

$y = 2.2893x + 14.946$
$R^2 = 0.5134$

Y-axis: Average Percent of Students Passing SOL
X-axis: Year

A2-7

Eighth-Grade History SOL Pass Rates and Trend Lines

y = 11.162x - 13.392
R^2 = 0.8148

y = 19.121x - 73.711

y = 4.9094x + 0.4431
R^2 = 0.8422

Eighth-Grade Science SOL Pass Rates and Trend Lines

y = 5.0902x + 35.691
R^2 = 0.8748

y = -7.2604x + 86.645

y = 4.9886x + 28.483
R^2 = 0.893

A2-8

High School Writing End-of-Course Pass Rates and Trend Lines

$y = 6.1302x + 53.618$
$R^2 = 0.7028$

$y = 9.4026x + 31.449$

$y = 6.578x + 35.598$
$R^2 = 0.8212$

Legend:
- ◆ PETERSBURGHIGH
- ■ Control School
- - - Linear (Control School)
- — Linear (PETERSBURGHIGH)

X-axis: Year (1997–2004)
Y-axis: Percentages of Students Passing Exam (0–100)
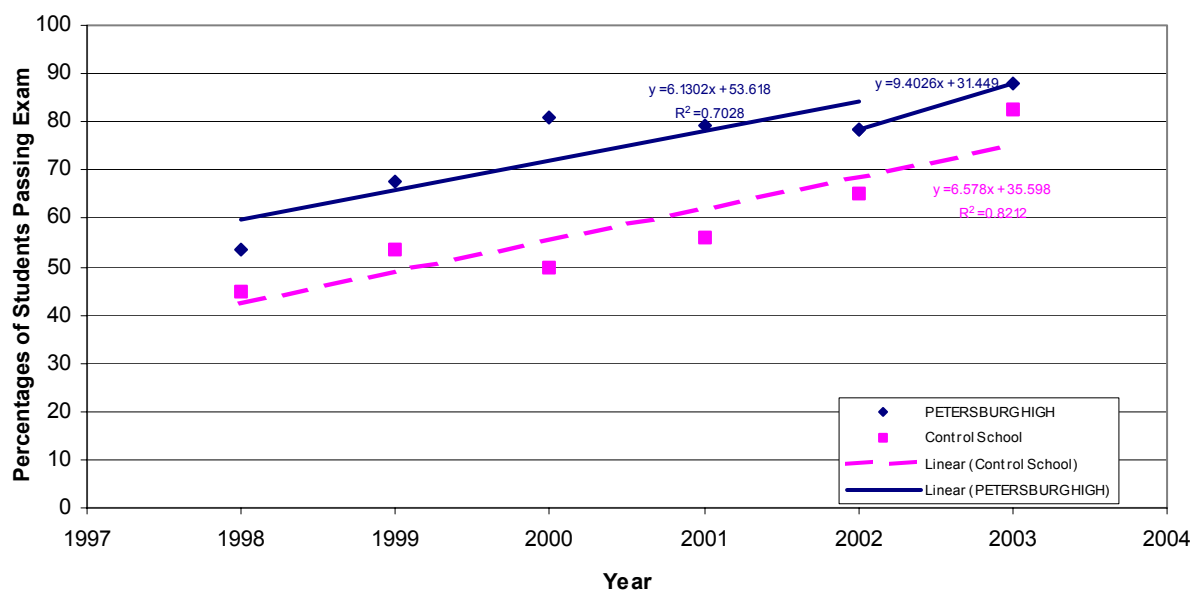
High School English End-of-Course Pass Rates and Trend Lines

$y = 7.533x + 43.857$

$y = 6.8542x + 45.84$
$R^2 = 0.924$

$y = 8.3978x + 33.505$
$R^2 = 0.6259$

Legend:
- ◆ Petersburg School
- ■ Control School
- - - Linear (Control School)
- — Linear (Petersburg School)

X-axis: Year (1997–2004)
Y-axis: Percentages of Students Passing Exam (0–100)

A2-9
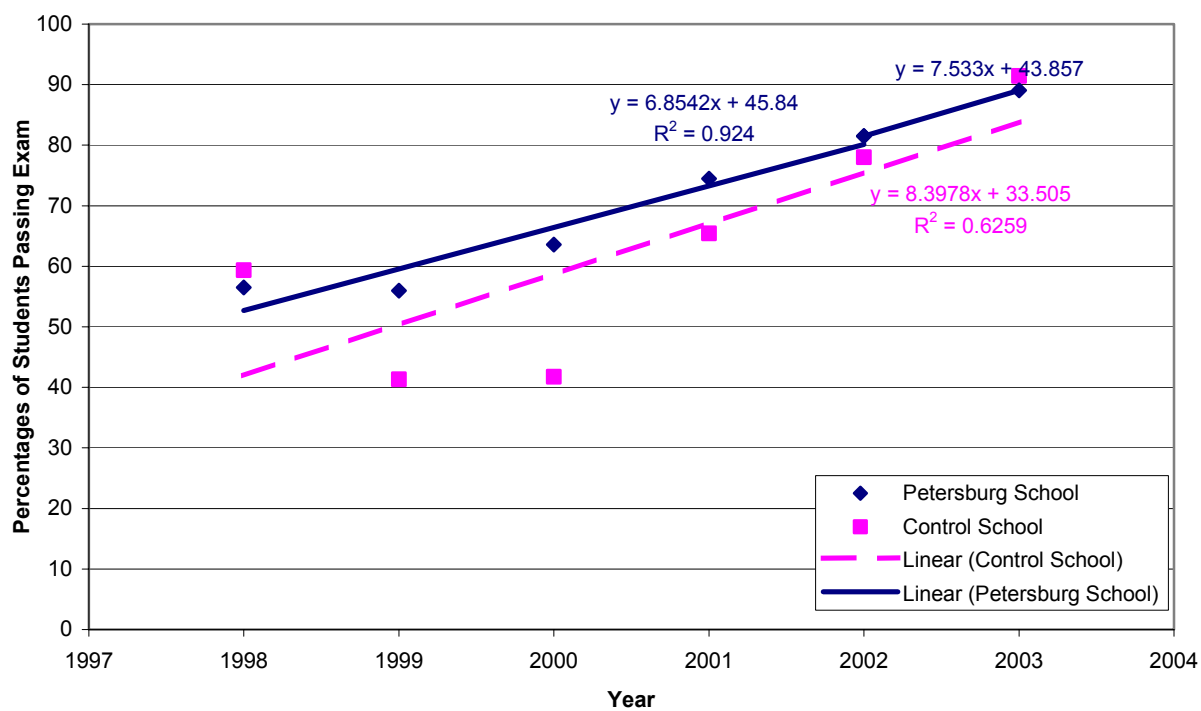
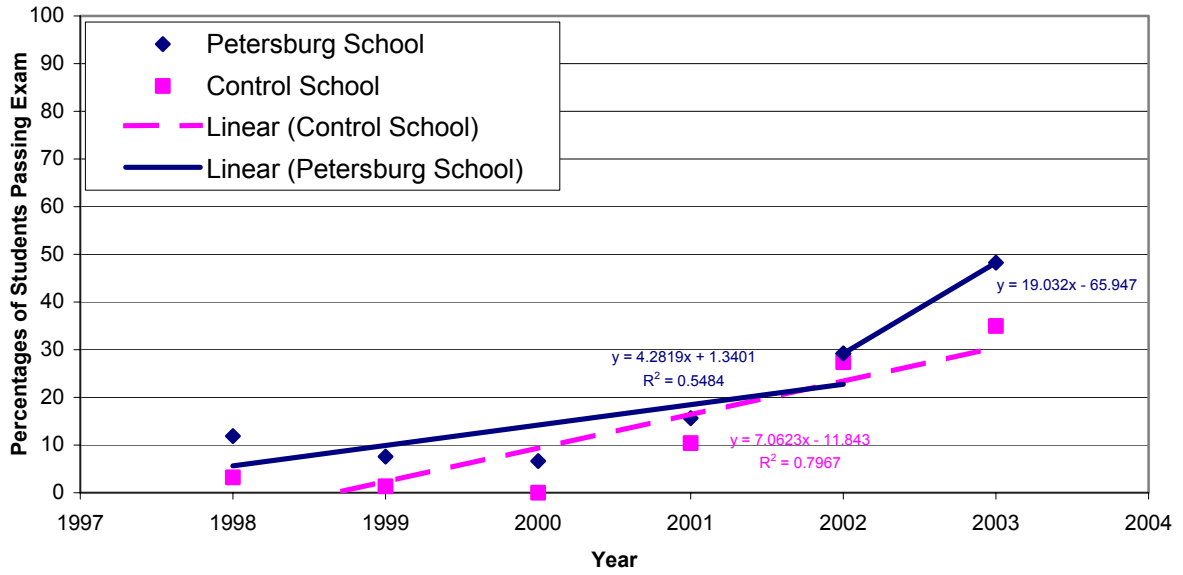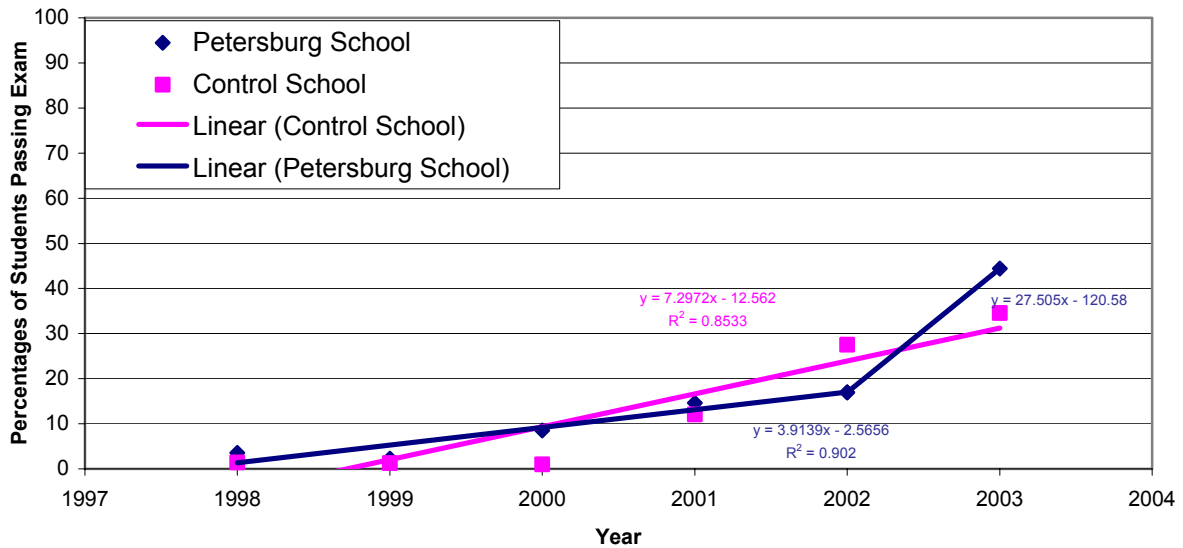**High School Algebra I End-of-Course Pass Rates and Trend Lines**
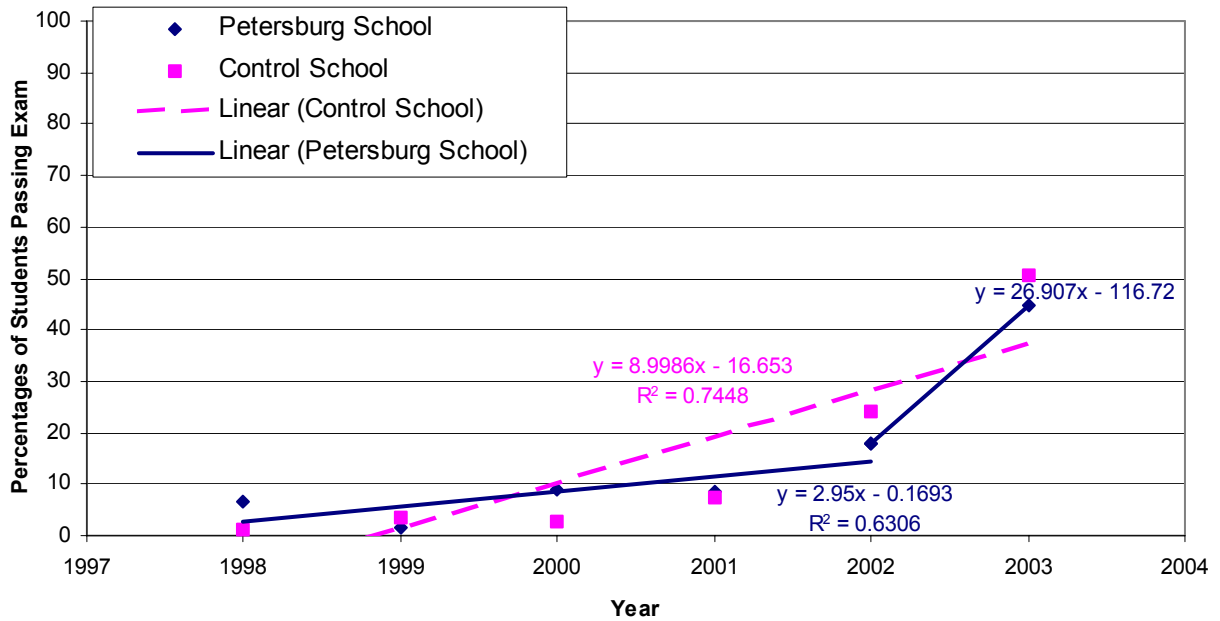
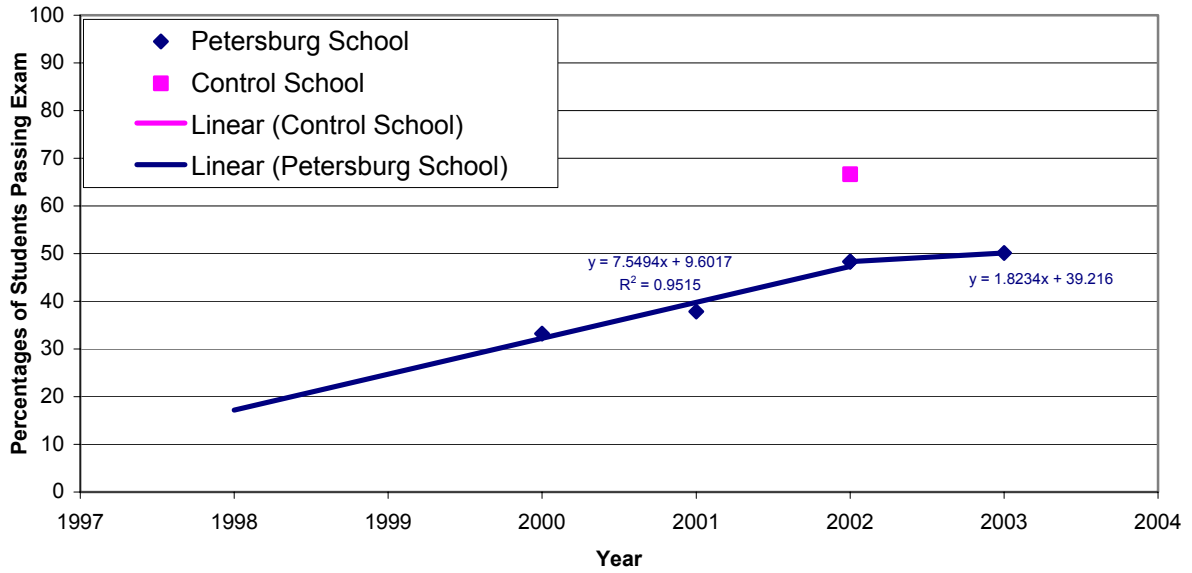**High School Geometry End-of-Course Pass Rates and Trend Lines**

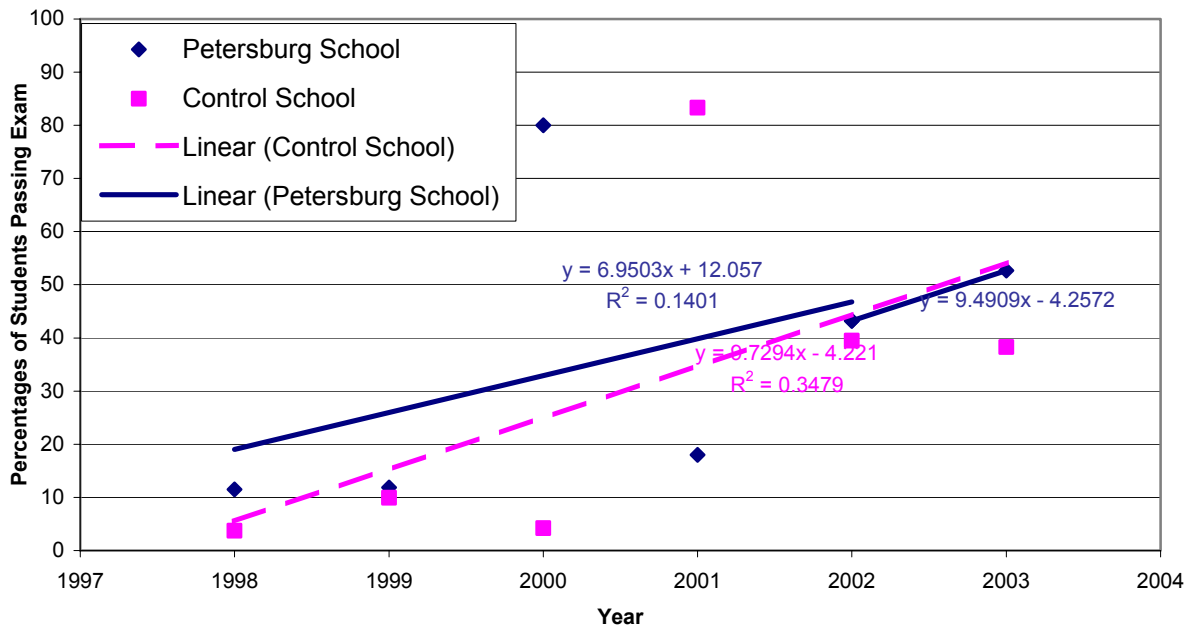**A2-10**
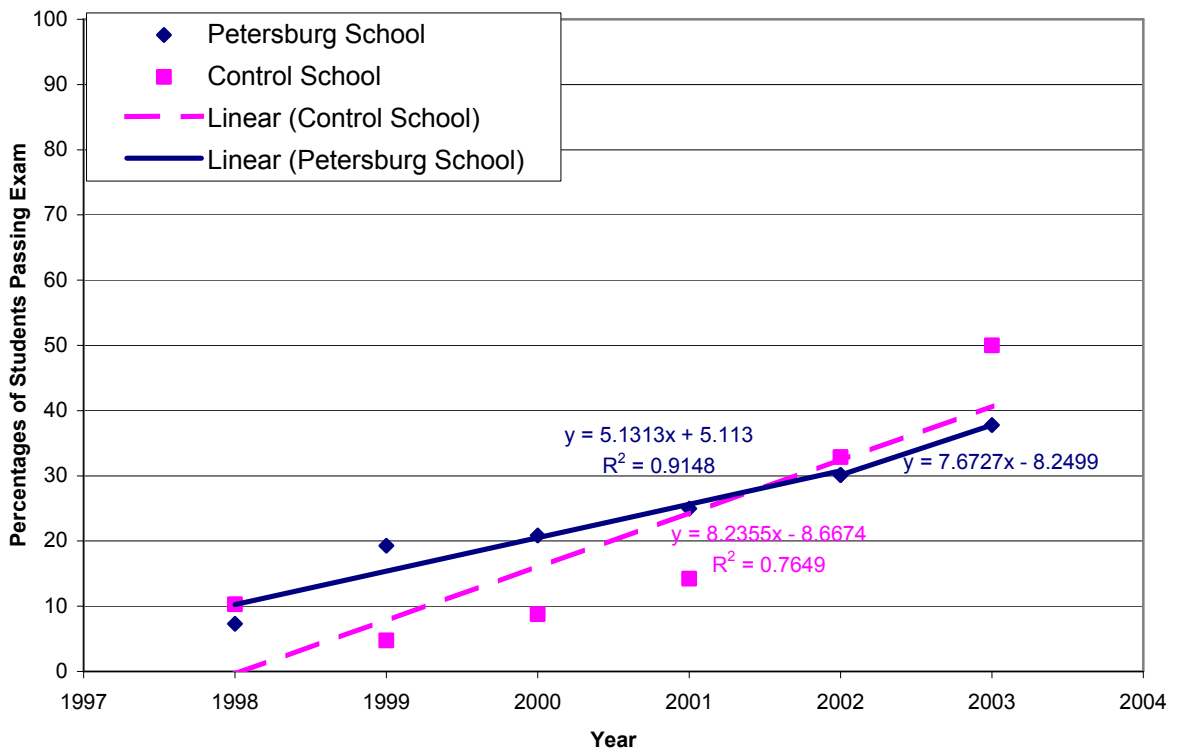
High School U.S. History End-of-Course Pass Rates and Trend Lines

Petersburg School
Control School
Linear (Control School)
Linear (Petersburg School)

y = 19.032x - 65.947

y = 4.2819x + 1.3401
$R^2 = 0.5484$

y = 7.0623x - 11.843
$R^2 = 0.7967$

Percentages of Students Passing Exam

Year

High School Algebra II End-of-Course Pass Rates and Trend Lines

Petersburg School
Control School
Linear (Control School)
Linear (Petersburg School)

y = 7.2972x - 12.562
$R^2 = 0.8533$

y = 27.505x - 120.58

y = 3.9139x - 2.5656
$R^2 = 0.902$

Percentages of Students Passing Exam

Year

A2-11

High School World History I End-of-Course Pass Rates and Trend Lines

y = 7.5494x + 9.6017
R^2 = 0.9515

y = 1.8234x + 39.216

High School World History II End-of-Course Pass Rates and Trend Lines

y = 6.9503x + 12.057
R^2 = 0.1401

y = 9.4909x - 4.2572

y = 6.7294x - 4.221
R^2 = 0.3479

A2-12

High School Geography End-of-Course Pass Rates and Trend Lines

$y = 2.4722x + 33.759$
$R^2 = 0.0949$
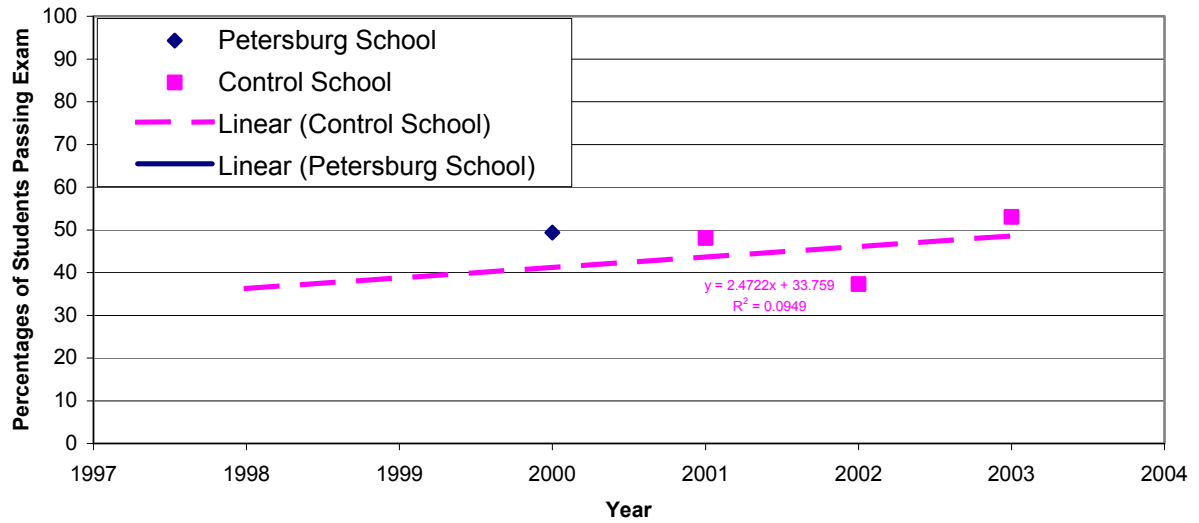
High School Earth Science End-of-Course Pass Rates and Trend Lines

$y = 7.7581x + 1.0134$
$R^2 = 0.9074$

$y = 25.597x - 104.72$

$y = 0.6046x + 24.976$
$R^2 = 0.0466$

A2-1
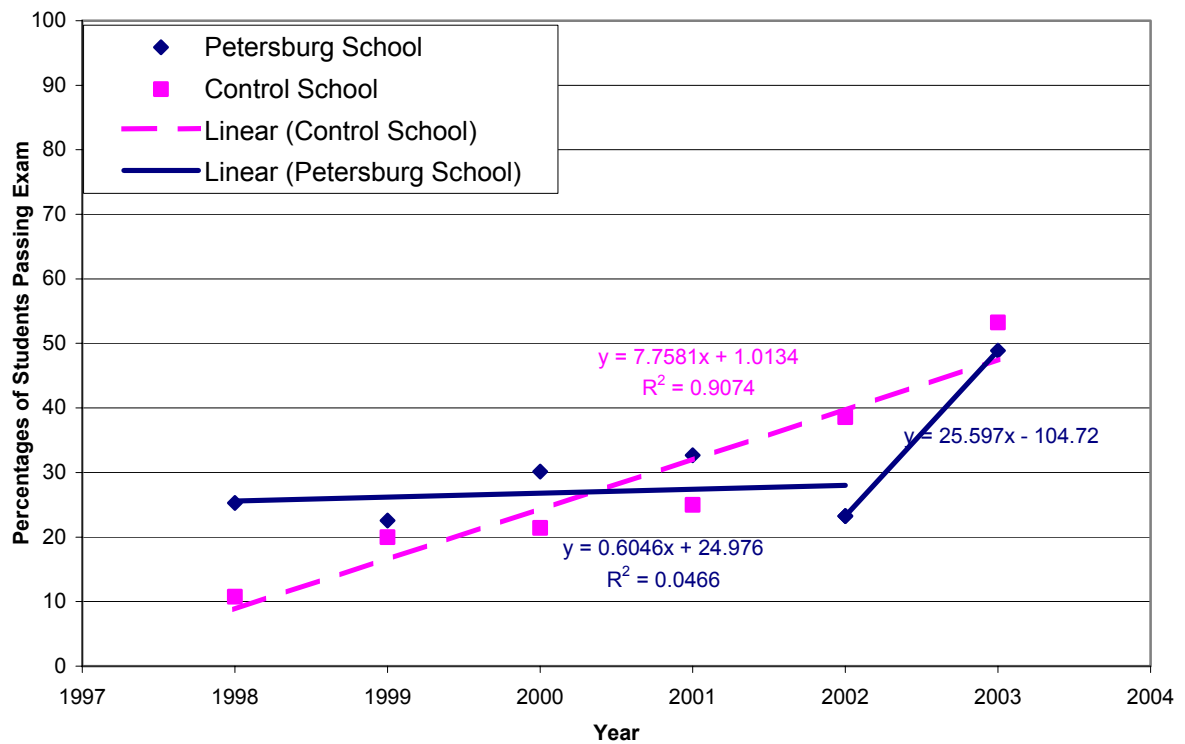
High School Biology End-of-Course Pass Rates and Trend Lines

Legend:
- ◆ Petersburg School
- ■ Control School
- – – Linear (Control School)
- —— Linear (Petersburg School)

y = 2.643x + 39.633
$R^2 = 0.3217$

y = 5.6448x + 26.486
$R^2 = 0.8358$

y = -7.3945x + 91.168
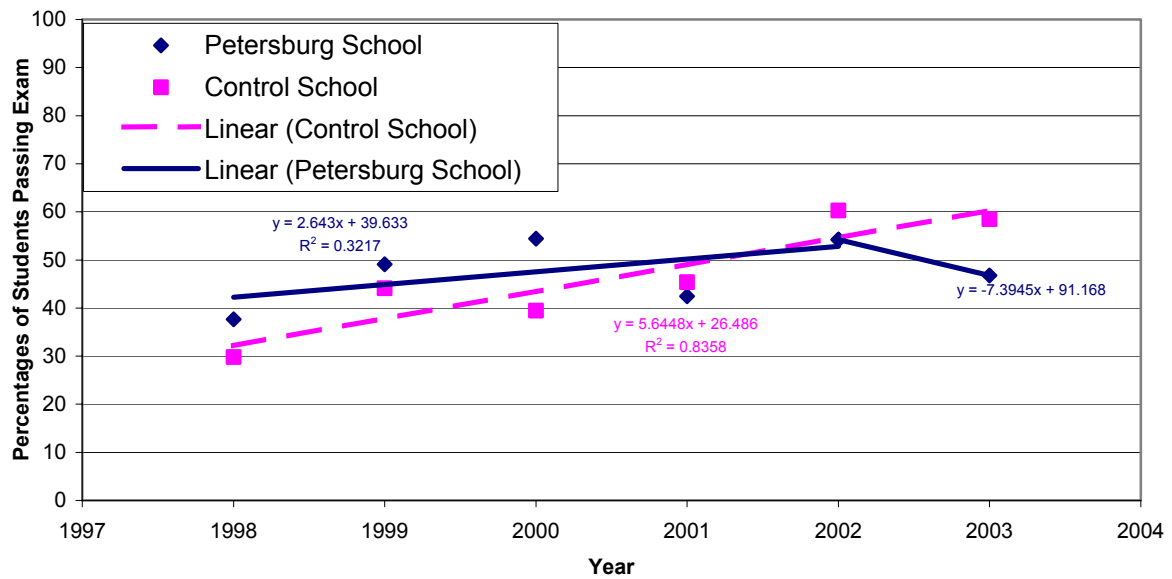
High School Chemistry End-of-Course Pass Rates and Trend Lines

Legend:
- ◆ Petersburg School
- ■ Control School
- – – Linear (Control School)
- —— Linear (Petersburg School)

y = 0.8855x + 14.531
$R^2 = 0.1028$

y = 4.6391x - 0.2763
$R^2 = 0.748$

y = 25.253x - 110.61

A2-2