

**A STUDY OF EFFECTIVE PRACTICES
IN
VIRGINIA SCHOOLS**

***Educators' Perspectives of Practices
Leading to Student Success***

November 2000

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*A Study of Effective Practices in Virginia's Schools:
Educators' Perspectives of Effective Practices
Leading to Student Success on SOL Tests*

**Conducted by the Virginia Department of Education
Governor's Best Practice Centers**

Executive Summary

Introduction: While reviewing research and working with schools, Governor's Best Practice Centers staff identified 16 effective practices in schools where high numbers of students qualified for free or reduced price lunches and where student achievement on SOL tests was high. These effective practices were: administrative support; assessment; classroom instruction; community and parent support; curriculum alignment; curriculum mapping and pacing; data analysis; intervention strategies; leadership; use of research-based programs; schedule considerations; school-wide focus on test success; staff development; student motivation; teacher planning accommodations; and technology.

Purpose: The purpose of the study was two fold: (1) to identify, from the perspectives of practitioners, effective practices in schools that were most influential in having a significant effect on student achievement, as evidenced by student performance on SOL tests; and (2) to create a catalogue of these "best practices" that would serve as a resource to all schools.

Sample: Twenty-six schools from the eight superintendents' regions were randomly selected from a statewide pool of schools where specified percentages of students were identified for free and reduced price lunches and where schoolwide student performance on SOL tests increased significantly from 1997-98 to 1998-99. Three high schools, seven middle schools, and 16 elementary schools were included in the study.

Design and Methodology: For each school identified, a team of teachers, a principal, and a central office administrator were interviewed. Interviewers recorded responses to questions and analyzed the interview data by placing participants' remarks into one of the 16 effective practice categories. Comments by participants were returned to them, and they were asked to rank each comment according to its degree of importance in improving student achievement. The four rankings ranged from "very important" to "less important." Data were further analyzed to determine specific activities related to each of the practices that were most important in improving student achievement.

Results: Of the 16 effective practices, high percentages of participants in at least 22 schools voluntarily identified the following effective practices as important: assessment; curriculum alignment; curriculum mapping and pacing; data analysis; intervention strategies; leadership and; student motivation. Of these, leadership was identified most often.

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INTRODUCTION

Throughout the Commonwealth of Virginia there are schools that are making great gains toward full accreditation as required by the Standards of Accreditation. Many of these schools are applying specific practices to improve student achievement measured by the Standards of Learning tests. Conversely, there are schools in the commonwealth that are struggling to improve student achievement. The practices employed by the improving schools, when replicated, may be significant in increasing student achievement in schools that are having difficulty reaching the benchmarks for accreditation.

Staff members of the Department of Education's Governor's Best Practice Centers have systematically gathered information about the practices employed by schools that are successful in improving student achievement, as measured by the Standards of Learning tests to achieve the following goals:

1. Identify effective practices present in Virginia schools that were having a positive schoolwide effect on student achievement.
2. Create a catalogue of these "best practices" as a resource for all schools.

This report provides details of the approach taken by the researchers to gather information about the **practices employed by successful schools** and the activities perceived to **be significant in improving student achievement on the SOL tests.**

REVIEW OF THE LITERATURE ON EFFECTIVE PRACTICES

There have been many studies investigating effective practices found in successful schools. The research literature on this topic is rich with empirical and anecdotal findings. In order to gather information about the practices perceived as most successful in improving student achievement, as measured by the Standards of Learning tests, the following practices found in existing research literature were used by the researchers.

- **Administrative Support:** The high expectations of and support for a strong instructional program by both the division and school level administration is crucial to improving student achievement. In successful schools administrators are instructional leaders who place importance on the development and recognition of sound curriculum and instruction practices. The central administration provides the school with resources targeted at improving student achievement. There is support for school-based management structures that involve teachers in the decision-making process.

Research Citation: Cawelti, (1999); Cotton, (1995); Education Commission of the States (1995); Fitzpatrick, (1998); Fullan, (1991); Newmann, King, and Rigdon (1997); Reeves, (1996-1998); Schlechty (1997); Weinstein, Madison, and Kuklinski (1995); Wohlstetter, and Mohrman (1996)

- **Assessment:** Teachers in successful schools participate in staff development activities to develop sound assessment tools. Student academic progress is monitored both formally and informally using a variety of assessment strategies. Interventions for students are designed based on these assessments. In successful schools students are taught the testing and scoring system to be used to evaluate their progress. There is a clear system in place for collecting, summarizing and reporting student achievement information based on the assessments.

Research Citation: Cawelti, (1999); Cotton, (1995); Fitzpatrick, (1998); Guskey (1994); Kershaw and McCaslin (1995); O'Conner (1995); Reeves, (1996-1998); Sammons, Hillman, and Mortimore (1995); Schlechty (1997).

- **Classroom Instruction:** In successful schools teachers carefully plan lessons to provide experiences that meet the varied skill levels and learning styles of the students. A variety of materials and strategies are used for “reteaching.” Effective questioning techniques are used to develop both basic and higher level thinking.

Research Citation: Cawelti (1999); Cotton (1995); Ellis and Worthington (1994); Fitzpatrick (1998); Fullan, (1991); Lumpkins, Parker, and Hall (1991); Schlecty (1997).

- **Community and Parent Support:** In successful schools parents and community members provide support for the instructional program and are involved in school governance. The schools conduct well-planned and extensive outreach programs to communicate with parents and community members in order to stimulate understanding of, and involvement in the school program.

Research Citation: Cawelti (1999); Cotton (1995); Fitzpatrick, (1998); Fullan, (1991); Schlecty, (1997); Tomlinson (1996)

- **Curriculum Alignment and Curriculum Mapping/Pacing:** In successful schools the curriculum is based on clear learning goals. There is clear documentation of the relationship of the goals to specific learning objectives, instructional activities and student assessments. Periodic reviews of the curriculum documents are conducted by the faculty.

Research Citation: Cawelti, (1999); Cotton, (1995); Fitzpatrick, (1998); Hallinger and Heck (1996); Reeves, (1996- 1998); Sammons, Hillman, and Mortimore (1995).

- **Data Analysis:** In successful schools student achievement data are systematically collected, analyzed and reported as a means for making decisions about the instructional program. Teachers and administrators regularly use data in both the individual classroom and schoolwide planning process.

Research Citation: Cawelti, (1999); Cizek (1995); Cotton, (1995); Fitzpatrick, (1998); Fullan (1992); Reeves, (1996-1998); Schlecty, (1997).

- **Intervention Strategies:** In successful schools teachers use student achievement data to plan appropriate intervention strategies. Students are given additional learning time in a variety of settings with varied approaches to instruction. Family members and other key persons in the lives of students are encouraged to support the intervention strategies.

Research Citation: Bamburg (1994); Cawelti, (1999); Cotton, (1995); Fitzpatrick, (1998); McManus and Gettinger (1996); Murphy (1996); Sammons, Hillman, and Mortimore (1995); Schlecty,(1997); Stevens and Slavin (1995).

- **Leadership:** In successful schools administrators and teachers take leadership roles by creating a strong sense of mission and vision. The leadership in the school builds a strong culture of collaboration and creative problem solving. Leaders take an active role in setting high expectations and instructional goals for student achievement.

Research Citation: Bamburg (1994); Cawelti, (1999); Cotton, (1995); Fitzpatrick, (1998); Fullan, (1991); Hallinger and Heck (1996); Levine and Lezotte (1995); Reeves, (1996-1998); Schlecty, (1997); Snyder (1995); Weinstein, Madison, and Kuklinski (1995); Zigarelli (1996).

- **Research-Based Programs:** Effective instructional programming has a strong research base.

Research Citation: Cawelti, (1999); Cotton, (1995); Fitzpatrick, (1998); Fullan, (1991); Newmann, King, and Rigdon (1997); Schlecty, (1997); Terry (1996).

- **Schedule Considerations:** In successful schools administrators and teachers ensure that school time is used for focused instruction. Time is allocated based on school instructional goals and student learning needs.

Research Citation: Canaday and Rettig (1995); Cawelti, (1999); Cotton, (1995); Fitzpatrick, (1998); Fletcher (1996); Irmsher (1996); Levine and Lazotte (1995); Schlecty, (1997).

- **School-wide Focus on Success:** In successful schools administrators and teachers provide a clear focus on expectations for achievement. Recognition, rewards and incentives are clearly publicized to the entire school community and used to focus attention on the expectations. Criteria for recognition are clearly delineated to bring greater focus to the efforts made to meet expectations.

Research Citation: Cameron and Pierce (1994); Cawelti, (1999); Cotton, (1995); Fitzpatrick, (1998); Maclver and Reuman (1994); Meece and McClosky (1997); Reeves, (1996-1998); Schlecty, (1997).

- **Staff Development:** In successful schools administrators and teachers set aside time for professional development activities that are based on improving the instructional program. Specific skill-building activities are delivered over time to allow staff members the opportunity to practice their new learning. Technical assistance is provided following the initial staff development activity. A variety of professional development activities are offered to accommodate the different learning styles of the staff.

Research Citation: Adey (1997); Cawelti (1999); Cotton, (1995); Fitzpatrick, (1998); Fullan, (1991); Louise, Marks, and Kruse (1996); Peterson (1997); Reeves, (1996); Schlecty, (1977); Warren and Muth (1995); Wohlsletter and Mohrman (1996).

- **Student Motivation:** In successful schools teachers take note of student interests, problems and accomplishments and use this information to motivate students. Rewards and incentives are provided throughout the school year and are related to student accomplishments. All students understand what they need to do to earn recognition.

Research Citation: Calwelti, (1999); Fitzpatrick, (1998); Schlecty, (1997).

- **Teacher Planning Accommodations:** In successful schools teachers are provided time for collaboration and planning in teams both within and across grade levels.

Research Citation: Cawelti, (1999); Cotton, (1995); Fitzpatrick, (1998); Fullan, (1991); Halinger and Heck; (1996); Levine and Lezotte (1995); Reeves, (1996); Sammons, Hillmand, and Mortimer (1995); Schlecty, (1997); Snyder (1995); Weinstein, Madison, and Kuklinski (1995); Zigarelli (1996).

- **Technology:** In successful schools administrators and teachers receive training to enable them to use educational technology effectively. Computer-assisted instruction and other forms of technology are used to enhance traditional teacher-directed instruction. Classroom lessons are enhanced using a variety of technology applications. Technology access for all students is assured through careful planning of hardware and software acquisition.

Research Citation: Azevedo and Bernard (1995); Bernauer (1995); Cawelti, (1999); Cotton, (1995); Escalada and Zollman (1997); Fitzpatrick, (1998); Harwood and McMahon (1997); Mann and Shakeshaft (1997); Schlecty, (1997).

RESEARCH QUESTIONS

A study was designed to answer the following questions about Virginia schools that are successful in improving student achievement on SOL tests:

- What effective practices do schools identify as important in improving student achievement?
- What specific activities under each identified effective practice do participants in the study describe as significant?

The selected effective practices found in the research literature served as the framework for gathering and organizing information about the schools that are successfully improving student achievement in Virginia. These practices include: administrative support, assessment, classroom instruction, community and parent support, curriculum alignment, curriculum mapping/pacing, data analysis, intervention strategies, leadership, research based programs, schedule considerations, schoolwide focus on test success, staff development, student motivation, teacher planning accommodations, and technology.

SELECTION OF THE SCHOOLS FOR THE STUDY

Criteria for Selection

Three criteria were used to select the schools to be studied. The first criterion was the accreditation status of the school. In order to be considered for the study schools had to be either fully accredited or have met the proposed 1999 benchmark passing scores in all core areas.

The second criterion was demonstration of substantial improvement on the SOL tests. An improvement index was assigned to each school considered for the study based on the increase in the percentage of students passing each core area SOL test between the 1998 and 1999 administration.

The third criterion was evidence of overcoming challenges to achieve success. The percent of students eligible for free or reduced price lunches was used as an indicator for this criterion. Elementary schools considered for the study had at least 30 percent of their students on free or reduced price lunches. Middle schools considered had at least 20 percent and high schools at least 15 percent. Additionally, feeder patterns of schools were investigated. Middle and high schools with lower percentages of students participating in the free and reduced lunch program were considered if the elementary schools in their feeder region had free or reduced lunch percentages of 30 percent or higher. This consideration was made to account for the traditional underreporting of free and reduced price lunches eligibility by middle and high school students.

Selection Process

Using these criteria 97 schools were determined to be candidates for the study. The schools were grouped by elementary, middle, and high schools. They were then subgrouped by a designation of urban, rural, or suburban. Twenty-six schools were randomly selected using a numbering system. The selection process allowed a representative sample of schools from each grade level group and subgroup to be included in the study (see table 1).

Table 1: Schools Selected for Study by Grade Level and Subgroup

	Rural	Urban	Suburban	Total
Elementary Schools	6	5	5	16
Middle Schools	3	2	2	7
High Schools	1	1	1	3

METHODOLOGY

Data were gathered through semi-structured interviews and the use of a Likert scale survey. Teachers and administrators associated with the schools selected for the study were asked to report the practices they perceived to be most important in improving student achievement.

Semi-Structured Interviews

Three sets of semi-structured interviews were conducted for each school selected to participate in the study. The first interview was conducted with the superintendent or other central office representative; the second with the school principal; and the third with a group of three to five teachers from the school. The principal was asked to select teachers for the interview who would represent a cross section of the school faculty, who had been teaching at the school for three to five years, and who could speak about practices implemented over time.

Each interview was conducted by at least two researchers (Governor's Best Practice Center staff) trained in the interview technique to be used. The interview was designed to solicit information from the faculty and administrators without directly prompting them to identify the specific practices used to frame the study (see Appendix A). Effective practices "volunteered" by the interview participants would have greater significance.

The interview data were recorded on a form organized around the effective practices identified in the literature (see Appendix B). The form

enabled the researchers to record the specific statements made, the year of implementation, who took the leadership role, and participants in the activity.

As the voluntary information provided by the interview participants ended, the researchers gave them an opportunity, through a direct interview prompt, to speak about any of the effective practices not addressed. This information was recorded on the data collection form, but was noted as a prompted response.

Likert Scale Surveys

Following the interview, the data were reviewed by the researchers for consistency in recording within the framework of the effective practices. The statements recorded on the data form were coded by effective practice and converted into a Likert survey (see Appendix C). Each participant in the interview was asked to review the statements on the Likert survey to verify that they reflected the information shared. Participants then rated each statement on a Likert scale of one (less important) through four (most important) based on their perception of the importance of each in improving student achievement.

All data from the three interviews for each school (including Likert scale ratings) were categorized by effective practice. A team of informed readers ensured consistency in categorization of data for all interviews from all schools.

Analysis

A multi-case cross-case analysis of the data was conducted. Data were organized to answer the following questions:

1. How many schools identified each of the 16 effective practices as important?

These data were organized and counted by the number of schools in the study as well as by elementary, middle, and high schools, and by urban, rural, and suburban.

2. Of the schools identifying each effective practice, how many had at least two interview groups identify it as important?
3. Of the schools identifying each effective practice, how many had all three interview groups identify it as important?

These data were used as a measure of the importance placed on each effective practice. If a practice was identified by only one of the three interview groups in a school, it was considered less significant than a practice identified by two or three of the interview groups. Using these measures a more detailed analysis was conducted on the effective practices having the greatest impact.

The analysis continued by organizing the data in accordance with the following questions:

4. Is there a difference in perception of importance between elementary, middle, and high schools?
5. Is there a difference in the perception of importance between rural, urban, and suburban schools?

These data were analyzed to determine differences in perception of importance between groups of schools with like characteristics.

6. How many teacher groups identified each effective practice?
7. How many principals identified each effective practice?
8. How many central office representatives identified each effective practice?

These data were analyzed to determine differences in perception of importance between interview groups.

9. How many of the interview participants volunteered information about each of the identified effective practices without a direct prompt?
10. What Likert scale rating did the interview participants assign each of the identified effective practices?

These data provided measures of the perceived importance of each of the identified effective practices.

11. What specific activities under each effective practice were identified as important?

These data provided more specific information about the activities undertaken for each effective practice to improve student achievement.

FINDINGS

Overview

All 16 effective practices were identified as having an effect on student achievement on SOL tests. Researchers used three selection criteria to determine if any of the practices were perceived as being more important than others. The selection criteria were: numbers of schools/interview groups identifying the effective practice as important; mean Likert Scale ratings for the effective practices; and the percent of times effective practices were “volunteered” by interview participants rather than prompted by the researchers.

Researchers focused on those effective practices identified by at least 22 of the 26 schools, and then referred to the number of interview groups identifying the practice to establish its relative importance. Mean Likert Scale ratings were calculated for each practice mentioned by at least 22 schools. Finally, researchers determined the percentage of times each of these practices was voluntarily identified by all interview participants.

Based upon this procedure, seven effective practices were perceived as more important than the other nine in having a positive effect on student performance on SOL tests. These practices were assessment, curriculum alignment, curriculum mapping and pacing, data analysis, intervention strategies, leadership, and student motivation.

These practices are described in the remainder of this section of the report. The order in which these seven practices are described is based upon the percentage of time the practice was voluntarily identified by interview

participants. The descriptions of the selection criteria for each of these seven effective practices are summarized in Appendix D.

It should be noted that no clear differences or trends were found in the data among elementary, middle, or high schools. There were also no clear differences or trends found among rural, urban, or suburban schools in the study.

Leadership

Leadership was voluntarily identified as an effective practice 92 percent of the time. It was identified at 25 of the 26 schools participating in the study. In 20 of the 25 schools, at least two interview groups identified the practice as important. In 17 of the 25 schools, all three interview groups identified the practice as important. The mean Likert scale rating for leadership was 3.69.

Activities described and associated with leadership were: creates vision, mission; assists in goal-setting processes; provides leadership in planning for student achievement; utilizes team- building strategies; encourages creativity; and identifies and uses expertise in all areas. Of these, the following three activities were described more often than others.

Creates vision, mission

Principals in these schools took responsibility for creating the means by which the school could focus on a clear vision and mission. In general, the principal “created a culture that all kids can learn in spite of their economic status.” Principals indicated that the “whole school team” needed a clear focus and a mission, with emphasis on where the school “wanted to go.”

Provides leadership in planning for student achievement

In these schools, principals took steps to keep informed of what was going on in classrooms and how well students were progressing in their learning. Teachers and principals shared “regular professional dialogs about students,” and the principal was well aware of instructional practices in classrooms. Principals often met with teachers to discuss student achievement data and to help plan instructional strategies that would benefit students.

Utilizes team-building strategies

Principals in these schools did not act in isolation. They created a sense of responsibility and shared-work ethic among staff. Some took a very deliberate approach to maintaining effective school teams, such as “hiring faculty ... who ‘fit’ with our school culture.” Principals in these schools were recognized for “providing leadership in getting teachers to work together.” Teachers appreciated principals using team-building strategies. One teacher’s statement, “The principal empowered staff, ... we feel more ownership,” is evidence of this.

Student Motivation

Student motivation was voluntarily identified as an effective practice 84 percent of the time. It was identified at 23 of the 26 schools participating in the study. In 16 of the 23 schools, at least two interview groups identified the practice as important. In 6 of the 23 schools, all three interview groups identified the practice as important. The mean Likert scale rating for student motivation was 3.43.

Activities described and associated with student motivation were: develops and implements incentive programs; and provides recognition of student achievement. Equal attention was given to both activities.

Develops and implements incentive programs

High schools, middle schools, and elementary schools all found ways to keep students interested in learning and in school. Year-round activities were conducted to keep students focused on the importance of doing well on SOL tests. For example, one school “used practice SOL questions over the intercom and gave rewards to classes getting the answers.” Another had SOL pep rallies and gave away t-shirts. Some schools used student performance on SOL tests as a way to improve students’ grades by awarding “bonus points;” “... extra grades;” and “use[ing] them for exam exemptions.”

Provides recognition of students’ achievements

Recognition of students’ academic efforts were not limited to performance on SOL tests at the end of the year, although students were rewarded for making “good efforts” on the SOL tests. In many of these schools, recognition of students’ hard work extended over the entire school year. Teachers gave examples of this, saying, “Achievement is celebrated every nine weeks,” and “We have honor roll assemblies and awards assemblies.”

Intervention Strategies

The practice of providing intervention strategies was voluntarily identified as an effective practice 79 percent of the time. It was identified at 25 of the 26 schools participating in the study. In 23 of the 25 schools, at least two interview

groups identified the practice as important. In 10 of the 25 schools, all three interview groups identified the practice as important. The mean Likert scale rating for intervention strategies was 3.40.

Activities described and associated with intervention strategies were: utilizes data to identify students needs; responds to individual student needs; provides additional instructional time; and involves parents in intervention strategies. Of these, the first three were described more often.

Utilizes data to identify students needs

Staff in these schools used classroom assessments and SOL test data to determine the content and skill areas in which students were doing well and in which areas they needed additional instructional support. Data disaggregation and analysis took place throughout the school year, and the results were used to make sound instructional decisions about students. Teachers used assessments to design interventions, and SOL test data were used “to decide on tutoring and individual academic plans.”

Responds to individual student needs

Beyond analyzing data to identify areas in which students needed additional academic assistance, staff in these schools used the data to design on-going interventions for individual students and for small groups of students. Teachers designed “individual remediation packets” to be used by students needing extra assistance. Teachers were provided support to help students through staff development. At one school, for example, all teachers “were trained in a study skills program to help students.”

Provides additional instructional time

Creative use of time and scheduling existed in the schools participating in the study. Remediation and intervention were provided during summer school and also throughout the school year during tutoring blocks, study blocks, or working lunches. Students were not necessarily assigned to remediation or intervention groups for the whole year, rather it was an “in and out” process, allowing students to receive the extra instructional help needed “to keep up” with their peers. Aides, parents, and community members assisted staff members in providing remediation before school, after school, and on Saturdays.

Data Analysis

Data analysis was voluntarily identified as an effective practice 76 percent of the time. It was identified at 22 of the 26 schools participating in the study. In 21 of the 22 schools, at least two interview groups identified the practice as important. In 13 of the 22 schools, all three interview groups identified the practice as important. The mean Likert scale rating for data analysis was 3.51.

Activities described and associated with data analysis were: systematic analysis of data; knowledge exists regarding data analysis processes; data are disaggregated; and data are analyzed vertically and horizontally. All practices were described equally as often.

Systematic analysis of data

Schools identifying this practice as important had a strategic approach for collecting, analyzing, reporting, and using data. This activity had been internalized as a part of the regular operation of the school. Staff in these

schools utilized the “system in place for analyzing data,” and reported data visually using “various graphs for planning purposes.”

Knowledge exists regarding data analysis processes

In these schools it was often reported that all staff used numerical and informational data to make instructional decisions. Staff members “used data to look for gaps in the curriculum.” They were actively involved, “feel[ing] secure in knowing where problems exist and [finding] solutions to address them.”

Knowledge of data analysis processes, then, was not limited to just the principal.

Data are disaggregated

This activity also existed as part of the regular school operation. Staff members constantly analyzed data from multiple sources and used various levels of disaggregation to determine courses of action that would lead to improved student achievement. In these schools, “systematic disaggregation of the data provides a baseline by which progress can be measured.” SOL test data were not analyzed in isolation. It was reported that, “Student performance on SOL tests is analyzed in conjunction with grades received in class.”

Data are analyzed vertically and horizontally

Numerical and other informational data were analyzed across grade levels (vertically) and within grade levels across disciplines (horizontally). Often, analysis extended to feeder school data, and “teachers worked together to look at student achievement data across grade levels to make instructional decisions.”

School staff members analysis of data was part of the larger division wide

strategic approach to analyzing data. It was reported, “The director of instruction and principals look at gaps as a system, as a school, and by classroom.”

Assessment

Assessment was voluntarily identified as an effective practice 76 of the time. It was identified at 24 of the 26 schools participating in the study. In 20 of the 24 schools, at least two interview groups identified the practice as important. In 11 of the 24 schools, all three interview groups identified the practice as important. The mean Likert scale rating for assessment was 3.40.

Activities described and associated with assessment were: teacher-made tests align with SOL; tests follow SOL formats; SOL verbs used on tests; test banks available and used; assessments used diagnostically; test scores communicated to parents; variety of assessment strategies exist; and teachers trained in constructing of test items. Of these, the following three activities were described more often than others.

Teacher-made tests align with SOL

Teachers in these schools designed classroom assessments that focused on content and skills contained in the SOL. These tests were given on a regular basis, sometimes “weekly to monitor progress of students with the SOL.” Teachers worked as teams to “create writing prompts for use in the school.” Often, teachers had some kind of training “to make quality tests.”

Tests follow SOL formats

In these schools, staff members realized the importance of exposing students to the format of SOL tests prior to test administration. Teachers taught

“test-taking skills using SOL-type tests.” Teachers worked in teams to “create tests in the same format as the SOL tests,” and these tests were shared among the staff.

Assessment used diagnostically

Teachers analyzed classroom assessment data to “design instruction” and to identify areas in which students needed extra instructional support. It was common practice to “use a variety of assessments to determine which students need extra assistance.” Results of classroom assessments were used to develop intervention and remediation plans.

Curriculum Alignment

Curriculum alignment was voluntarily identified as an effective practice 72 percent of the time. It was identified at 23 of the 26 schools participating in the study. In 18 of the 23 schools, at least two interview groups identified the practice as important. In 12 of the 23 schools, all three interview groups identified the practice as important. The mean Likert scale rating for curriculum alignment was 3.69.

Activities described and associated with curriculum alignment were: focusing on SOL; including all SOL content; including all SOL processes; ongoing curriculum review; and conducting curriculum audits. Of these, the following three activities were described more often than others.

Focusing on SOL

Schools identifying curriculum alignment as an effective practice had aligned their curricula at least two years prior to the interview. Aligning curricula

was a responsibility shared between the central office and the school staff. Curriculum alignment involved comparing what had been taught previously to what needed to be taught in light of the revised SOL. Often, staff members “compared the SOL and the [current] curriculum” to determine what curricular adjustments needed to be made. In some instances, “the county provided guides aligned to the SOL and [school staff] made some adjustments.”

Including all SOL content

Staff members in these schools focused on identifying critical elements to be taught at each grade level to increase the probability of student success. They “emphasized SOL content at all grade levels, not just where the SOL tests were given.” Teachers took steps to teach the written curriculum, ensuring that “instruction was correlated to the SOL [content].” Staff members were encouraged to reorganize what they taught. A principal said, “I told teachers, ‘Give up your favorites,’ until all SOL were taught.”

Ongoing curriculum review

Staff members in these schools took responsibility for monitoring what they taught throughout the school year. Teachers used “curricula of the prior grade to help us” maintain the focus of their teaching. Principals “reviewed lesson plans and kept a tally of the SOL being taught.” Teachers with leadership roles involved themselves in “monitoring the progress in teaching the SOL.”

Curriculum Mapping and Pacing

Curriculum mapping and pacing was voluntarily identified as an effective practice 71 percent of the time. It was identified at 23 of the 26 schools

participating in the study. In 21 of the 23 schools, at least two interview groups identified the practice as important. In 12 of the 23 schools, all three interview groups identified the practice as important. The mean Likert scale rating for curriculum mapping and pacing was 3.90.

Activities described and associated with curriculum mapping and pacing were: instruction being SOL driven rather than textbook driven; outlining an instructional sequence with appropriate timelines; describing the scope of content and skills; and using SOL blueprints. Of these, the first two activities were described more often than others.

Instruction being SOL driven rather than textbook driven

Teachers tended to use textbooks as an information resource for students, rather than as a curriculum guide. They were often provided training in developing a “backwards design” for instructional pacing. This involved using the SOL test administration date as the benchmark for concluding instructional activities focused on SOL content, and “mapping” the content to be taught over the remaining days in the school year. Principals and teachers were able to consciously monitor instructional progress since “SOL numbers are noted in lesson plans.”

Outlining an instructional sequence with appropriate time lines

Schools identifying curriculum mapping and pacing as an effective practice had developed their first instructional timelines at least two years prior to the interview. Progress in following curriculum maps was monitored at various levels throughout the school year. Staff members developed pacing guides that

“helped teachers use instructional time more effectively.” In addition to the principal monitoring the pacing of instruction, “teachers constantly review their maps and pacing guides.”

Summary

While all 16 effective practices are important to improving student achievement, three sorting criteria were used to determine the effective practices perceived by Virginia educators as being most important. Each of the seven practices discussed in this chapter had associated with it specific activities that interview participants said existed in their schools. It is these practices and associated activities that Virginia educators deem important to increasing student success in mastering SOL content.

Common patterns throughout the data

Analysis of interview data revealed three common patterns that occurred throughout the seven effective practices identified as important by interview participants. These three patterns were leadership, staff development, and school culture.

Leadership. While leadership was identified separately as an effective practice, researchers noted that activities commonly associated with leadership occurred throughout many of the other effective practices. Principals in these schools understood instruction, knew their students and staff, and established a vision for the school.

While the principal set the stage for leadership, he or she was not alone in the leadership role. Specifically, the principal empowered teachers as leaders to

work together to improve student achievement. It was often explained that “the principal provides leadership in getting teachers to work together.” This resulted in school leadership that provided focus, established ownership, and developed a collaborative system for monitoring progress toward increased student achievement.

Staff Development. Staff development was an effective practice identified in the literature as leading toward improved student achievement. However, it was not singled out and identified by interview participants in this study as one of the seven most important effective practices.

Interview data revealed that staff development activities were described within the context of the other effective practices. Therefore, researchers determined that staff development heightened the effectiveness of the practices. Activities were mentioned that one would call “traditional” staff development activities- those in which teachers participated in a formal, organized training program. For example interview participants noted, “Teachers have been trained to make quality tests;” and “Teachers have been trained in a study skills program to help students.”

Activities were mentioned that one would consider “nontraditional” staff development activities – ones in which teachers work together in teams to develop a process for solving a problem. For example, interview participants noted, “Individual departments compared the SOL and the [current curriculum]” and from those comparisons curriculum revisions were made. Teachers often

worked in teams to analyze data in order to “know where problems exist and [to] find solutions to address them.”

School Culture. Across all data sets, a clear picture emerged of a school culture supporting teamwork, collaboration, ownership, and shared responsibility for student achievement. The teachers and administrators strongly believed that all children were capable of academic success. Staff members noted that in response to this belief, “kids want to do well.”

Principals supported appropriate staff development activities, focused on student achievement and empowered teachers to take “more ownership” in school issues. Staff engaged in teamwork and accepted responsibility for the outcomes of decisions they made. Teachers worked together to “look at student achievement data, develop curriculum maps for the next year, and create writing prompts for use in the school.”

CONCLUSIONS AND FURTHER RESEARCH

This study describes the seven effective practices identified by Virginia educators as most important to student success on SOL tests. These practices are, in the order in which they were presented, leadership, student motivation, intervention strategies, data analysis, assessment, curriculum alignment, and curriculum mapping and pacing.

Each effective practice was associated with activities described by interview participants. For the purpose of this study, it is these activities that operationally define the seven effective practices. The seven effective practices and their associated activities are summarized in Appendix E.

School leaders should focus on teamwork and shared responsibility for creating a school culture in which these seven practices and associated activities are the norm. For students to be successful, these practices and activities should be an integral part of the day-to-day operations of the school.

The researchers recognize the importance of leadership in bringing about student success, and recommend that the school leader give priority to incorporating these practices and activities. It is recommended that first priority be given to activities associated with effective practices of curriculum alignment and curriculum mapping and pacing. Schools in this study had initiated these practices at least two years in advance of this study, and these activities are now an integral part of the schools' operations.

Incorporation of effective practices should and must be accompanied by traditional and nontraditional staff development. Staff should be given

opportunities to learn more fully about each of the practices to be incorporated, and receive feedback regarding the success of implementation.

This study identifies, from the perspectives of Virginia's educators the seven effective practices most important in increasing student achievement. Several questions remain, however, which may need to be answered in the future to guide educators as they work toward improving student achievement in their schools. These questions are:

1. Is there a point at which the percentage of students qualifying for free or reduced price lunches correlates negatively with student achievement on SOL tests in schools where these effective practices are present?
2. Is there a statistically significant difference in perceptions of importance of effective practices among elementary, middle, and high schools?
3. Is there a correlation between the number of years of experience of the principal or teaching staff and student performance on SOL tests?
4. Do schools with higher rates of student success on SOL tests perceive as important the same effective practices as schools with lower rates of student success on SOL tests?
5. Over time, will schools where students continue to show improved performance identify the same effective practices as important to their success?

Answers to these questions will be important to guiding Virginia's schools in the future, as Virginia's education reform program becomes more established.

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