

THE IMPACT OF THE PROFESSIONAL DEVELOPMENT COMPONENT OF
COMPREHENSIVE SCHOOL REFORM ON THE MATHEMATICS ACHIEVEMENT
OF THIRD-AND FIFTH-GRADE STUDENTS ATTENDING SELECTED TITLE I
SCHOOLS IN VIRGINIA

by

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Dissertation

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The Impact of the Professional Development Component of Comprehensive School Reform on the Mathematics Achievement of Third and Fifth Grade Students in Virginia

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Abstract

The purpose of this study was to determine the impact of the professional development component of Comprehensive School Reform on the mathematics achievement of third and fifth grade students attending selected Title I schools in Virginia. A qualitative research design was used to examine data from a focus group of four technical assistance providers, six principal interviews, and thirteen teacher surveys. This study involved participants of the 2003 cohort of the Comprehensive School Reform process during a 3-year period from 2003 through 2006. A set of questions was developed for each group of participants to acquire their perceptions of the components of professional development that impacted instruction and enhanced student achievement in mathematics. A constant comparative method was used to analyze key words and direct quotes from the focus group interview, principal interviews, and teacher surveys. Triangulation of these data was utilized to identify emergent themes.

The findings revealed that the professional development component of Comprehensive School Reform had a significant impact on classroom instruction and student achievement in mathematics. Findings also revealed that the technical assistance provider served as a coach and resource for professional development. Findings indicated that professional development included data analysis and research-based

instructional strategies as contributing factors for increased student achievement. The Virginia Standards of Learning pass rates of spring 2006 showed significant gains in the mathematics achievement of students in Grades 3 and 5 attending the Title I schools participating in Comprehensive School Reform. It was evident in the findings of this study that professional development significantly impacted the mathematics achievement of students attending the 2003 Comprehensive School Reform cohort of selected schools in Virginia. This information will serve as a resource for administrators of Title I schools in Virginia that have not met the Adequate Yearly Progress (AYP) requirements of the No Child Left Behind Act of 2001.

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CHAPTER 1: INTRODUCTION TO THE STUDY

“Many events of the past few years bode well for the field of staff development. Reports issued by governmental bodies, business groups and various commissions emphasize the central role staff development must play in school reform efforts” (Sparks & Hirsh, 1997, p. 1). Sparks and Hirsh explained how local, state, and national levels of education have recognized the necessity of “sustained, high-quality staff development” and its impact on student achievement (p. 1). They also stated, “Ann Lieberman, Linda Darling-Hammond and Milberg McLaughlin are among the leading school reformers who have called for a new form of professional development” (p. 2).

Darling-Hammond and McLaughlin (1995) reported that staff development connected to school reform should support a “learner-centered” view of teaching and a career-long conception of teachers’ learning. They stressed the importance of preparing teachers to provide complex instruction for diverse students:

The success of this agenda ultimately turns on teachers’ success in accomplishing the serious and difficult tasks of learning the skills and perspectives assumed by new visions of practice and unlearning the practices and beliefs about students and instruction that have dominated their professional lives to date. Yet few occasions and little support for such professional development exist in teachers’ environments (p. 597).

The demands of modern society are mandating that America’s public schools provide what they have never provided before: “a first-rate academic education for nearly all students” (Schlechty, 1997, p. 235). This sense of urgency has propelled educators to

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search for and implement more effective school reforms and strategies for improving the ways in which they educate students and prepare them for the world of work or further educational opportunities.

Purpose of the Study

The purpose of this study was to investigate the impact of the professional development component of Comprehensive School Reform (CSR) in selected Title I elementary schools in Virginia. The 2003 cohort of 13 CSR schools served as the population for the study. The overarching research question was the following: Is the CSR process effective in improving student achievement in mathematics for third- and fifth-grade students? This study identified characteristics of professional development implemented through Comprehensive School Reform that impact student achievement in mathematics based on the Standards of Learning scores of third- and fifth-grade students whose schools participated in CSR from 2003 through 2006.

The researcher selected the subject of mathematics because this subject had been identified as an urgent need for action from the President and the United States Secretary of Education. President George W. Bush stated, “You’ve got to know math if you’re going to compete in the 21st-century world” (U.S. Department of Education [USDOE], 2006, p. 2). U.S. Secretary of Education, Margaret Spellings, stated, “It is more important than ever that our students receive solid math instruction in the early grades to prepare them to take and pass algebra and other challenging courses in middle and high school” (USDOE, 2006, p. 3). Recent assessment tests found that “America’s 15-year-olds ranked 24th out of the 29 developed nations in mathematics literacy and problem solving” (Programme for International Student Assessment [PISA] Test, 2003, p. 3).

On April 18, 2006, President Bush issued an Executive Order creating the National Mathematics Advisory Panel. The Panel advises the President and the Secretary of Education on the best use of scientifically based research to advance the teaching and learning of mathematics. This panel, modeled after the National Reading Panel, examines and summarizes the impact of scientific strategies related to the teaching and learning of mathematics. The National Math Panel was charged with providing two reports containing recommendations on how to improve mathematics achievement for all students. The interim report was to be issued to the President and Secretary Spellings by January 31, 2007, and a final report is to be issued no later than February 28, 2008.

Topics to be addressed by the 17 panelists who will make up the National Mathematics Panel include the following: (a) the critical skills and skill progressions needed to learn algebra; (b) the proper role and design of standards and assessment in promoting student competence in math; (c) the process by which students of various abilities or backgrounds learn math; (d) how the training, selection, placement, and professional development of math teachers affect student achievement; and (e) research needs in support of math education (National Mathematics Advisory Panel, 2006, p. 2).

The researcher elected to examine the achievement of students in grades three and five because these are the first two grade levels in which the Virginia Standards of Learning (SOL) Assessments are administered. These tests provide an initial indication of how elementary-age students are performing on a statewide assessment in mathematics. The researcher did not include fourth-grade SOL mathematics assessments because they were administered for the first time in 2005-2006. Fourth-grade students

were not included in the SOL assessments administered during 2003-2006 to the cohort of Virginia schools included in this study.

In this document, the researcher shares how the components of professional development, technical assistance providers (TAPs), and math instruction impact student achievement based on the SOL assessments. Professional development and math instructional strategies surfaced as specific areas that contribute to high student achievement in mathematics. The researcher located limited information on the impact of the technical assistance provider's role as the external facilitator of the professional development component of CSR.

The researcher wanted to determine how professional development and mathematics instruction had assisted the teachers and students with improving student achievement. Based on information obtained from interviews with the technical assistance provider focus group, interviews with principals, and the survey of teachers, the researcher identified and described the characteristics that contributed to the mathematics achievement of third and fifth grade students attending the 2003 cohort of Virginia schools. The information gained from the focus group, interviews, and survey provided opinions and perceptions related to the impact of the professional development component of CSR on the mathematics achievement of students attending the 2003 cohort of CSR schools in Virginia.

Importance to the Field of Education

Comprehensive School Reform (CSR) is a federally funded educational program (ESEA, Title I, Part F, and the Fund for the Improvement of Education) based on scientific research and effective practices implemented to improve the achievement of all

students (U.S. Department of Education, 2001). The CSR program provides both a framework and the funding to enable schools to change their organization and practices so that all students can achieve high standards (U.S. Department of Education, 2004a). Content standards and accountability have become major components for school improvement. The adoption of a Comprehensive School Reform model assists low-performing schools with the implementation of a school-wide reform plan that addresses the academic achievement of students.

National Perspective

Education has experienced a variety of school reform efforts. Hopkins, Ainscow, and West (1994) wrote, “Unfortunately and surprisingly, there have been very few large-scale efforts at evaluating the effectiveness of school improvement. The two best known are both American” (p. 77). The Rand Change Agent Studies (Berman & McLaughlin, 1977) and the Study of Dissemination Efforts Supporting School Improvement (DESSI) “increased our knowledge about school improvement in general and enlightened educators that there was still a need to evaluate school improvement initiatives” (Hopkins et al., p. 9).

The United States Office of Education (USOE), now known as the U.S. Department of Education, awarded a contract to The Rand Corporation in 1973 to investigate 293 local innovations that focused on the “initiation and implementation of change agent programs” (Berman & McLaughlin, p. 2). This 2-year study (July 1973 to July 1975) focused on the “stimulation and spread of educational innovations in local school districts that had received temporary funds” to support new educational practices aimed at improving student achievement (p. 2). These local school districts received

funds ranging from ten thousand dollars to several hundred thousand dollars per year for a span of 3 to 5 years. According to Berman and McLaughlin, “this aimed to help improve federal change agent policies by describing how the process of innovation works in its local setting and by trying to discern what factors affect the innovative process and its outcomes”—student achievement (p. 1). The Rand Study discredited school improvement strategies; the study is discussed further in the literature review.

The second best known U.S. educational research that evaluates the effectiveness of school improvement is the DESSI study of 1983 (Hopkins et al., p. 77). Crandall and Loucks (1982) wrote,

For the past twenty-five years, the federal government has tried actively to improve America’s schools. Tens of millions of dollars have been spent by its various agencies and offices to assist schools in solving their problems and enhancing their educational offerings. Broad arrays of new instructional practices—many of them exemplary—have resulted and are available to interested schools. (p. 1)

This historical study involved qualitative data from 4,000 educators representing 146 school districts and established a platform for “planning school improvement efforts that will carry the country into the next century” (p. 1).

Prior to the Rand and DESSI studies, the federal role in education shifted during the mid-1960s with President Lyndon Johnson’s War on Poverty legislation known as the Elementary and Secondary Education Act (ESEA) of 1965 (USDOE, 2001), which endorsed the first and largest contribution of federal funds to support public school education for kindergarten through twelfth-grade students. Its primary goal was to

implement educational programs that would decrease the educational gap for economically disadvantaged students in schools and communities across the United States. According to Tirozzi and Uro (1997), reauthorizations of ESEA included a variety of other programs that promoted school desegregation and improved math and science instruction in the nation's public schools.

The decade of the 1980s focused on enhancing school reform with the publication of *A Nation At Risk: The Imperative for Educational Reform* (National Commission on Excellence in Education [NCEE], 1983). The NCEE report warned, "the educational foundation of our society is presently being eroded by a rising tide of mediocrity that threatens our very future as a Nation and a people" (p. 5). Tirozzi and Uro (1997) wrote,

This report cited poor student performance on international tests, declining Scholastic Aptitude Test (SAT) scores, a steady decline in 17-year-olds' science achievement as measured by national assessment, watered down curricula, inadequate time devoted to classroom study and homework, teaching courses weighted too heavily with "educational methods" at the expense of course subject matter, and other causes. The word mediocrity, in an educational context, became a household word. A consensus grew that we needed to do much better in our schools and pay particular attention to the still-too-wide gap in academic proficiency between White students and Black and Hispanic students, which raised new doubts about the equity of American education. (p. 1)

The report ignited school reform initiatives under the umbrella of the excellence movement. In 1994, the United States Congress developed the National Education Standards and Improvement Council to study and support the implementation of national

standards. Thus, the nation moved to what was coined the Restructuring Movement—a site-based reform model. Schmoker (1999) wrote,

After the ultimate failure of the Restructuring Movement and the downfall of the Excellence Movement, school reform in the United States was in a state of despair. Previous attempts with school reform continued to be unsuccessful and American public schools continued to be even more at risk in providing a quality educational plan for all students. More schools are rejecting vague, multiple “improvement goals” in favor of clear, measurable achievement goals. (p. ix)

The reforms of the late 1980s and the decade of the 1990s revealed new national educational goals and standards. Among the first of these movements was the Improving America’s School Act (IASA) of 1994. The IASA was a landmark reauthorization of the ESEA in which significant improvements were made to federally funded education programs for elementary and secondary schools. The changes resulted from a broad body of research, spanning a decade, which identified factors that support and enhance teaching and learning. The redesigned ESEA supports and encourages comprehensive reform efforts by schools, communities, and states to reach the national educational goals (Tirozzi & Uro, 1997, p. 4).

The primary focus of ESEA continues to be the provision of services and support for economically disadvantaged students. Nevertheless, after the reorganization of ESEA, Title I became a major component from which the largest investment of federal dollars was presented to public schools to aid in the educational opportunities for economically disadvantaged students.

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Another school reform initiative was *The Goals 2000: Educate America Act*, (U.S. House of Representatives, 1994). This legislation was signed into law by President William Clinton on March 31, 1994, and provided funding for states to develop and implement standards to improve student learning and achievement. It supported the development of comprehensive reform plans that focused on assessment, accountability, professional development, and community involvement. “It established a framework for world-class academic standards to measure student progress and to provide the support that students may need to meet the standards” (North Central Regional Educational Network [NCREL], 2006, p. 5).

School reform initiatives continued with the passage of Public Law 105-78, Obey Porter legislation, in 1997. The legislation was cosponsored by Representative David Obey (D-WI) and Representative John Porter (R-IL) (U.S. House of Representatives, 1997). The Comprehensive School Reform Demonstration (CSR/D) Program initially contributed \$145 million to participating states as competitive grants if they adopted Comprehensive School Reform programs. Of those funds, \$120 million was directed to Title I schools, with the remaining funds made available to all public schools (Mid-continent Research for Education and Learning [McREL], 2006).

This legislation established the CSR/D Program, which cultivated school wide initiatives to impact the quality and performance of schools. Through state grants, the federal CSR program awards a minimum of \$50,000 per year for 3 years to qualifying schools. To be eligible for CSR funding, schools must demonstrate in their applications that they have planned a “comprehensive” program, as defined by 11 components (Cavel, 2001, p. 4).

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The Eleven Components of Comprehensive School Reform are as follows:

1. Goals and benchmarks (includes measurable goals for student performance and benchmarks for meeting those goals).
2. Supportive staff members (ensures that programs are selected and supported by school faculty, administrators, and staff before implementation).
3. Proven methods and strategies based on scientifically based research (employs strategies that are based on scientifically based research and effective practices and have been replicated successfully in schools).
4. Strategies that improve academic achievement (has been found to significantly improve the academic achievement of students or demonstrates strong evidence that it will improve the academic achievement of students).
5. External assistance (uses high-quality external technical support from a CSR entity with experience or expertise in school wide reform and improvement).
6. Parental and community involvement (provides for the meaningful involvement of parents and the local community in planning and implementing school improvement activities).
7. Professional development (provides high-quality and continuous teacher and staff professional development and training).
8. Support for change agents (provides support for teachers, administrators, and other staff).
9. Coordination of resources (identifies how all resources available to the school will support and sustain the school reform effort).

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10. Annual evaluation (includes a plan for evaluating, annually, the implementation of the school wide reform and its impact on students' achievement).

11. Comprehensive approach (has a comprehensive design for effective school functioning that includes instruction, assessment, classroom management, professional development, parental involvement, and school management, and that aligns the school's curriculum, technology, and professional development into a school wide reform plan (Hansel, 2007, pp. 4-5).

The beginnings of comprehensive school reform are also anchored in the work of leading educational reformers, including Henry Levin of Stanford University, Ted Sizer of Harvard University, and Robert Slavin of Johns Hopkins University. Their school reform initiatives were established by Levin's *Accelerated Schools Project*, Slavin's *Success for All*, and Sizer's *Coalition of Essential Schools* (Sizer & Slavin, 1999, p. 2). These whole-school reform models established the foundation for the current Comprehensive School Reform program that was included in the reauthorization of the Elementary and Secondary Education Act, signed into law as the No Child Left Behind (NCLB) Act of 2001.

Following the school reform programs and legislations of the 1980s and 1990s, the educational stage of the 21st century was set with the federal mandates to implement national educational standards. One of the most notable educational reforms began with the NCLB Act of 2001 (U.S. Department of Education, 2002). President Bush signed this legislation on January 8, 2002. The unprecedented legislation established the foundation for an essential change in the importance and focus of federal education policy.

The NCLB legislation created mandates for students to meet minimum competencies in core subjects. Thus, the level of accountability was raised for all educators to meet the academic needs of all students. The stated purpose of NCLB focused on closing the achievement gap between high-and low-performing children, offering more flexibility, giving parents more options, and teaching students with research-based strategies that have proven to be effective.

The NCLB Act (2001) particularly focused on the achievement gaps between minority and nonminority students and between disadvantaged children and their more advantaged peers. The subgroups addressed in the NCLB legislation include Asian and Pacific Islander, Black, Hispanic, American Indian, White, Free or Reduced-Price Lunch, SWD (Students with Disabilities, Special Education), LEP (Limited English Proficiency) and other or nonresponse. This legislation has impacted educational accountability and placed school reform in the forefront of school improvement; education reform efforts continue to impact student achievement during the 21st century.

Noted school reformers DuFour and Eaker (1998) effectively stated their position on the importance of accountability in America's schools:

We are not prepared to accept the conclusion that it is impossible to improve schools. Nor do we believe that improvement can only occur when parents provide schools with a better class of students and society has solved its problems.

Although much of the popular criticism of schools has been unfair and unfounded, we do not believe that educators should accept the status quo. (p. 8)

Many school reform efforts did not succeed because of “top-down” mandates, lack of clarity, lack of perseverance, and failure to embrace the change in school culture or focus

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on the change process. Educators are beginning to discover that new ideas and focused knowledge are essential to solving learning problems in a rapidly changing society (Fullan & Steigelbauer, 1991). Educational studies and legislation have impacted accountability and placed comprehensive school reform in the forefront of school wide initiatives “that improve entire schools and raise student achievement using scientifically based research and effective practices” (USDOE, 2006, p. 1).

When the CSR Program began in 1998, authorized as Title I, Part F of the ESEA, it became an important component of NCLB of 2001. During the 1st year of implementation, over 1,800 schools in 50 states received grants as a part of the original 1998 cohort. Statistics for 2004 revealed that approximately 3,000 schools across the United States, including the District of Columbia, Puerto Rico, and schools funded by the Bureau of Indian Affairs (BIA), received funds to support the implementation of CSR (USDOE, 2004a).

Comprehensive School Reform is a process of redesigning and revitalizing entire schools by implementing challenging academic standards, researched-based strategies, site-based professional development, and strengthened parent and community support (Northwest Regional Educational Laboratory [NWREL], 2003). Presently, schools across the United States are taking a new approach to school improvement called Comprehensive School Reform (CSR).

The CSR approach is based on a school’s needs for improvement. The mandated legislation (NCLB) encourages the adoption of a comprehensive school model. The selected model must be a preexisting model with a research-based design that has a proven track record of its value and effectiveness. The following four points clearly

characterize CSR as (a) a systematic approach to school wide improvement that incorporates every aspect of a school—from curriculum and instruction to school management; (b) a program and a process that is designed to enable all students to meet challenging academic content and performance goals; (c) a framework for using research to move from multiple, fragmented educational programs to a unified plan with a single focus—academic achievement; and (d) a product of the long-term, collaborative efforts of school staff, parents, and district staff (NWREL, 2003, p. 3).

The No Child Left Behind legislation states that adopted models or methods must implement scientific, research-based strategies that will improve the achievement of all students. Thus, qualifying schools must address and align their process with the 11 CSR program components (NWREL, 2003).

State Perspective of Comprehensive School Reform

Virginia began its participation in the Comprehensive School Reform Demonstration Program (CSR/D), Public Law 105-78, on June 12, 1998. The State Superintendent of Public Instruction, Paul D. Stapleton, informed Division Superintendents of this competitive grant opportunity and Virginia's application process that included regional workshops for interested school divisions (Commonwealth of Virginia, 1998). Attachment #1 of Superintendent's Memo #35 provided general information about the competitive grant application process for CSR/D. One component of the memo included the purpose of CSR/D:

Purpose: The purpose of this grant initiative is to provide financial incentives for schools to implement Comprehensive School Reform based on reliable research and effective practices. CSR/D's emphasis on the core subject academic areas of

mathematics, science, English, and history and social studies conforms to Virginia's reform initiative so that all children can achieve the Standards of Learning. These Comprehensive School Reform grants are intended to stimulate a coordinated effort by a school to increase student performance, covering virtually all aspects of school operations rather than a piecemeal, fragmented approach to reform. (p. 2)

Senior Attorney K. G. Harris, of the Division of Legislative Services for the Commonwealth of Virginia, stated in Virginia Legislative Issue Brief No. 34, "Consistent with this nationwide movement, the Commonwealth's efforts to improve public education in recent years have largely focused on standards, assessments, and accountability measures that seek to ensure educational excellence and opportunity for all students" (Virginia Division of Legislative Services, 2003, p. 1).

Virginia had recognized the crucial role of standards and assessment with the adoption of the Standards of Quality (SOQ) in 1971. The adoption of the SOQ was followed with the implementation of the Standards of Learning (SOL) (Virginia Division of Legislative Services, 2003, p. 1). In June 1995, the Virginia Board of Education approved Standards of Learning in four core content areas: mathematics, science, English, and history and social sciences. In September 1997, the Board of Education established new Standards for Accrediting Public Schools in Virginia (SOA) that linked statewide accountability tests to the SOL and held students, schools, and school divisions accountable for results. The SOA were adopted by the Virginia Board of Education in June, 1981; they were fully implemented in 1998 (VDOE, n.d.).

The Commonwealth's implementation of CSR continued with former State Superintendent of Public Instruction, Jo Lynne DeMary. During her administration,

Comprehensive School Reform

DeMary supported the implementation of whole-school reform that was targeted “specifically for high poverty schools that were not succeeding in effectively teaching all children” (Commonwealth of Virginia, 2003, p. 1).

School Division: Local Perspective

To provide additional support for low-performing schools, a school division in the Tidewater Region has implemented the Title I and Compensatory Educational Program. This Title I program requires the following: (a) higher accountability based on state standards, (b) statewide testing to ensure access to high quality curriculum, (c) annual planning for all schools, (d) 2 years of planning for schools in school improvement status, (e) use by the school of at least 1% of funding to improve family participation, and (f) use of federal funds by schools with 35% or more low-income students (U.S. Department of Education 1997). The program supports professional development for educators, Parental Involvement Facilitators, and Parent Resource Centers in the Title I schools. In addition to these initiatives, the Title I program supports state-approved supplemental reading and mathematics programs, additional highly qualified instructional personnel and the Comprehensive School Reform (CSR) program. There were 14 Title I schools in the 2003 cohort receiving federal funds dispersed from the state to support and enhance student achievement.

Personal Perspective

As this researcher began a leadership role at a new school in the fall of 2001, she encountered a school culture that had not focused on mastery teaching and mastery learning for teachers or students. The atmosphere of the school could best be described as having been in a cocoon for several years. Many teachers were unfamiliar with

effective best practices that enhance student achievement. Establishing teacher expectations and consistently communicating the focus of student achievement were priorities for the new principal and assistant principal leadership team. These were essential elements in establishing the foundation for the administration's role as instructional leaders.

The leadership team faced several obstacles during the 1st year of the journey but continued to monitor and communicate the established expectations. It remained very important to provide a purpose for making changes that would enhance effective teaching and ultimately improve the academic success of the students. Thus, the team continued to “move the cheese” by increasing the level of expectations and acknowledging the staff's successes along the way (Johnson, 1998).

Although the school was not fully accredited after the 1st year, the school team experienced successes and developed a clearer understanding of how effective change positively impacts the teaching and learning process. Was the school team ready to raise the bar? Did the school staff want to explore ways to continue the educational journey at a different level? Would they consider applying for a Comprehensive School Reform grant offered by the Virginia Department of Education? “Yes” was the overwhelming (89%) response on the school staff survey of April 2003!

Thus, the school began a journey with Comprehensive School Reform and continued to experience successes along the way. CSR became not only a topic of interest to the researcher but also a process that positively impacted the students and staff of what was once a low-performing school. The school became a Fully Accredited Title I

school after the 1st year of implementing the school wide Comprehensive School Reform model—Onward to Excellence II (NWREL, 2001, p. 1).

Rationale for the Study

Based on the adoption and implementation of the Comprehensive School Reform program in 14 Title I schools in Virginia (2001 to 2003), the researcher chose as the focus of this study the impact of the professional development component of CSR on the mathematics achievement of third and fifth grade students attending these designated schools. Also, because this was a competitive, federally funded grant, the researcher studied the impact of the federal funds on student achievement in mathematics.

Research Questions

The overall research question guiding this study was the following:

1. Is the CSR process effective in improving the achievement in mathematics of third and fifth grade students?

According to domains identified in the review of literature, subordinate research questions relating to the overall-guiding question included the following:

- A. Has the technical assistance provider impacted the professional development component of CSR?
- B. Has professional development impacted instruction in the classroom?
- C. In what way has the professional development component of CSR impacted the instruction of mathematics of third and fifth grade students attending the 2003 CSR cohort of schools in Virginia?

Theoretical Framework

The theoretical framework for this study focused on characteristics that contribute to a school's student achievement in mathematics. As educators continue to be concerned about providing exceptional learning experiences for students, professional development continues to be a focus for helping teachers learn how to implement research-based strategies for optimum learning that will help students attain high levels of academic achievement. The conceptual framework for this study focused on the characteristics of professional development, mathematics instruction, and the role of the technical assistance provider (TAP). The study was designed to reveal how these components have contributed to the mathematics achievement of third and fifth grade students attending the participating CSR elementary schools in Virginia. The review of literature was structured around these domains.

Limitations

The absence of a control group of teachers, principals, and technical assistance providers limited the researcher's capacity to make generalizations regarding the findings in this study because Comprehensive School Reform provides funding to school districts to enhance the academic achievement of schools with high percentages of students of low socioeconomic status (SES). The results of this study report the perceptions of participating teachers, principals, and technical assistance providers.

Delimitations

This research study was limited to teachers, principals, and technical assistance providers from several school divisions in Virginia who participated in a focus group,

responded in interviews, and responded to a survey. The participants were selected based on their participation in the Comprehensive School Reform process.

Terms and Definitions

The following terms and definitions are presented to explain their meaning with regard to this study. Terms and definitions were derived from various sources related to Comprehensive School Reform, including McREL (2006) and the Virginia Department of Education (VDOE) (2006).

Comprehensive School Reform. The Comprehensive School Reform (CSR) program is a Congressional initiative designed to foster coherent school-wide improvements that pertain to virtually all aspects of a school's operation. States provide competitive grants to school districts on behalf of specific schools that have indicated a readiness to adopt comprehensive reforms to help students reach high standards (McREL, 2006).

Comprehensive School Reform model. The Comprehensive School Reform model is a method designed to reform the most important aspects of school functioning: curriculum, instruction, professional development, and more (Slavin, 2005).

Technical assistance provider. Technical assistance providers help schools and districts implement their Comprehensive School Reform efforts (NCREL, 2006, p. 1).

Title I, Part A. This program provides financial assistance through state educational agencies (SEAs) to local educational agencies (LEAs) and public schools with high numbers or percentages of poor children. The program helps to ensure that all

children meet challenging state academic content and student academic achievement standards (VDOE, 2006, p. 1).

Significance of the Study

This study contributes to the scholarly literature regarding the impact of the professional development component of CSR through the investigation of its relationship to student achievement based on Virginia SOL scores, professional development, and instructional strategies implemented during mathematics instruction. The researcher conducted a focus group of technical assistance providers, interviewed principals, and surveyed teachers to identify emerging themes regarding the impact on the mathematics achievement in their respective schools. The researcher has described and identified characteristics evolving from the interviews and has organized findings around domains cited in the literature review with regard to professional development and instructional strategies. The results of this study provide teachers, administrators, technical assistance providers, and policymakers with information regarding the impact of the professional development component of CSR on student achievement in mathematics.

Organization of the Study

This document is divided into five chapters. Chapter 1 includes an introduction to the topic, the purpose of the study, its importance to the field of education, and educational trends related to CSR, which describe the national, state, local, and personal perspectives of CSR. The rationale for the study, research questions to be addressed, limitations, definitions, significance of the study, and organization of the study conclude chapter 1.

Comprehensive School Reform

Chapter 2 includes a review of the literature related to Comprehensive School Reform, professional development, and instructional strategies for mathematics.

Chapter 3 describes the research methodology, research design, setting, focus group protocol procedures, data collection procedures, and method of data analysis.

Chapter 4 presents findings of the focus group interview, principal interviews, and teacher surveys.

Chapter 5 contains discussion of the findings and conclusions of the study. It also presents implications for the professional development domain of CSR implementation and recommendations for future studies.

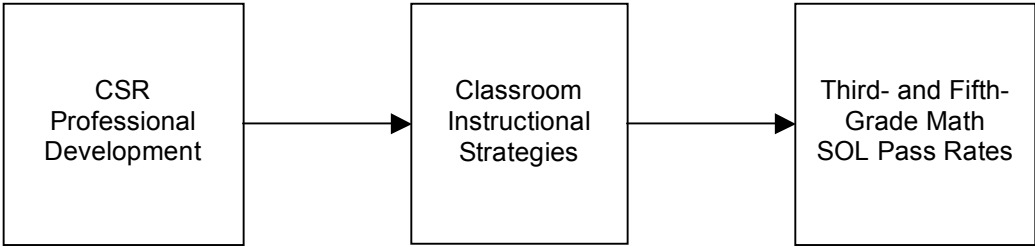


Figure 1. Professional development impacts mathematics achievement of third- and fifth-grade students attending the 2003 CSR cohort of selected Title I schools in Virginia.

CHAPTER 2: REVIEW OF LITERATURE

This chapter begins with an examination of current school reform efforts. The subject of comprehensive school reform is important because it is the supporting framework for the second area of research, the impact of professional development on the mathematics achievement of elementary students. These two areas of interest, Comprehensive School Reform and professional development, interconnect with the third area of examination, the supporting role and impact of the technical assistance providers who serve as the external facilitators for schools that are implementing CSR. This intersection of interests provided the framework for an exploration of professional development in the area of mathematics, within the framework of Comprehensive School Reform, examining also the impact of the technical assistance provider on instruction and student achievement.

Areas of Inquiry

The first area of inquiry, Comprehensive School Reform, provides a conceptual framework for understanding the impact of current school reform initiatives on student achievement. The second area of inquiry, professional development, reviews the impact of professional development on student achievement. Educators continue to learn new research-based strategies that support high academic standards and learning for all students. Thus, the third area of review focuses on the subject of mathematics instruction that is supported by Comprehensive School Reform and professional development in

efforts to enhance mathematics achievement for elementary students. Comprehensive school reform serves as the foundation that blends these areas of inquiry in this study.

School reform initiatives continue to be implemented in schools across the United States as a result of the requirement for more rigorous and universal standards and increased methods of assessment (U.S. Department of Education, 2004a). Because teachers and students are affected by the emphasis on testing and accountability, the need for well-prepared educators to work with students in designated Title I schools necessitates school reform supported by professional development. The No Child Left Behind Act (2001) emphasizes continued training of highly qualified personnel for every student with the potential to be left behind. The professional development component of comprehensive school reform is one method of supporting the needs of educators who work with students attending Title I schools.

Parameters of the Literature Review

This chapter presents the research on educational reform movements, especially as they relate to student achievement. It addresses the literature related to Comprehensive School Reform as well as the literature on professional development and its impact in helping educators to enhance their skills and strategies in mathematics instruction. The review of literature did not uncover studies regarding the impact of the technical assistance provider's role in facilitating professional development during the implementation of Comprehensive School Reform. The lack of this information represented a noted gap in the review of literature. To focus the literature review, queries were conducted using a variety of keywords, including school reform, comprehensive school reform, educational reform movements, professional development, mathematics

instruction, and monitoring procedures. The Educational Resources Information Center (ERIC), Psych Info, Virginia Tech ILLiad, Northwest Regional Laboratory, and Virginia Department of Education databases were useful electronic resources. These prompts identified books, research studies, dissertations, government resources, and Web sites regarding Comprehensive School Reform.

Each area—Comprehensive School Reform, professional development, or mathematics instruction—is broad in conceptualization. Reforms in education include various programs that have been implemented since the inception of the educational system in the United States. The topic of comprehensive school reform includes a number of subtopics, such as the procedure of adoption, fidelity of implementation, and sustainability. Similarly, professional development incorporates a number of aspects, including the design, context and content, method of delivery ring the elementary years, contains various domains that include research-based strategies, learning styles, and the use of manipulatives to enhance student achievement. Each one of these areas constitutes a body of knowledge in which the foundation and branches contain various elements of its development and impact on student achievement.

For purposes of this review, however, only areas included in the overarching question are discussed. This process eliminated the review of literature related to specific comprehensive school reform models and allowed, instead, a focus on the professional development component of Comprehensive School Reform, as facilitated by technical assistance providers (TAPS), and its impact on student achievement in mathematics. This approach was used as the focal point for the literature review and facilitated a study

that was succinct in leading to information to answer the research questions presented in chapter 3.

Historical Perspective of Comprehensive School Reform

The review of literature begins with a discussion of school reform and its implications for student achievement and staff development. Reform movements have been a part of the educational design for the past 3 decades. Dorn (2000) wrote, “Schooling has become an institution that dominates time and consciousness, affecting our assumptions about what is important. One response is to target those key institutions for inspection, concern, and responsibility for solving broader problems” (p. 7). School reform initiatives mirror the social fabric of American life and promulgate the agendas of educators, social scientists, and politicians. Darling-Hammond (1997) noted that reforms come in “waves,” each wave promoting a different educational focus.

Education Past to Present, an essay by Deschenes, Cuban, and Tyack (2001), provided a historical retrospective of educational reforms in America, explaining how these reforms affected “students who have not been able to do what educators wanted them to do” (p. 525). This essay provides a framework for discussion of school reform. The essayists stated that during the first half of the 19th century, all children were exposed to an educational program that emphasized equality of opportunity. These educational programs took place in ungraded, one-room schoolhouses usually located in rural settings across the United States. At that time, students were taught the three Rs along with citizenship. It was the hope for all schools to expose poor students to the academics so that they could achieve that which the fortunate already possessed. A child who did not perform well in this setting was often labeled “dunce” or “loafer” and might receive

physical punishment for failure in being responsible for his or her learning (Deschenes et al., p. 529).

During the second half of the 19th century, reform movements introduced the graded school concept in which all children were taught the same content at the same time, and academic failure was attributed to “deficits of character” (Deschenes et al., p. 531). Students were labeled as “shirkers” or “depraved” and were retained if they failed to learn. Darling-Hammond (1997) referred to schools of this period as large, impersonal, factory-model schools created to teach basic skills to poor children. These schools communicated “the image of a moving conveyor belt on which students were placed while teachers performed a predetermined series of operations on them” (p. 38). Schools had adopted the factory model for the education of children (Gainey, 1993).

At the beginning of the 20th century, a new Progressive reform movement re-emphasized the need for equal opportunity for all students, including children of immigrants, but introduced testing that “differentiated” or “tracked” students into specific curricula or vocational programs. Students were identified as either “normal” or “handicapped or retarded.” Other groups of students, such as Blacks or immigrants, were unofficially segregated. This approach enabled teachers to “teach different things in a different way in a different place” (Deschenes et al., 2001, p. 532).

By the 1940s and 1950s, schools focused on fundamental and rote learning. It was not until the Soviet Union challenged America in 1957 with the launching of Sputnik that curricular reforms propelled educational reform in mathematics and science education for American students. A program aimed at preparing American students to think critically was initiated by the National Science Foundation and the Department of

Education (Darling-Hammond, 1997). Deschenes et al. (2001) noted that by the late 1950s, the civil rights movement forced equal access to education, and demands were made to adapt schools to meet the needs of minority and economically disadvantaged children attending public schools. Federally funded programs were created to equalize resources or compensate for past discrimination. Labels such as “educationally deprived” or “culturally different” suggested that the blame for unequal access lay with the school; however, other terms, such as “educationally difficult” and “unwilling learners,” focused the cause of academic trouble on the students (Deschenes et al., p. 533).

From the 1960s to the 1970s, “early compensatory education was based on a concept of deprivation and cultural deficit” (Deschenes et al., 2001, p. 534). Reformers challenged the use of large-scale assessments, known as intelligence tests, which resulted in student tracking; they questioned why minority students were overrepresented in classes designed for students receiving special education services. Such questions brought attention to the linguistic and cultural differences of students. Thus, reformers requested support of the federal, state, and local governments to improve educational standards for all students, including students with special needs (Deschenes et al.). Elmore (1996) also stated that this failure to implement educational interventions was “not much a failure of theory of how to reproduce success but the absence of a practical theory that [took] account of the institutional complexities that operate on changes in practice” (p. 21).

Also implemented during this period was a widespread instructional process of scaling up that prevailed in education reform. Scale-up instruction was defined as a “means of taking the reform from the design experiment level, where researchers may

interact with classroom educators often, to the school, district, or regional level or beyond, and trying to enact these practices in multiple contexts with a diverse group of teachers and students” (Fullan & Steigelbauer, 1991, p. 31). Known as “the replication model,” this reform was

based in management science about organizational change. This model envisioned an external provider who would respond to a need for change due to a performance failure in schooling. The external provider would implement an idea or sets of ideas for curriculum, instruction, and associated training for teachers intended to improve teaching practices and eventually student performance.

(Glennan, 1998, p. 11)

Elmore (1996) criticized this scale-up attempt at reform:

The problem of scale in educational innovation can be briefly stated as follows: innovations that require large scale changes in the core of educational practice seldom penetrate more than a small fraction of American schools and classrooms, and seldom last for very long when they do. By the “core” of educational practice, I mean how teachers understand the nature of knowledge and the student’s role in learning, how these ideas about knowledge and learning are manifested in teaching and class work. (p. 1)

During the 1960s and 1970s, one main goal of federal aid was to increase equity in education through compensatory educational assistance to help educate groups of children, such as poor, migrant, or limited English proficient students, as well as students with disabilities. President Johnson increased the federal role in education in 1964 with the passage of the Elementary and Secondary Education Act (ESEA), which included

Headstart and Title I programs, components of his war on poverty. During the 1970s, states also began to rely on the minimum competency movement to reform schools and ensure that students would earn or meet minimum skill requirements for becoming productive citizens (Amrein & Berliner, 2002).

In the 1980s, issues in education reform included educational accountability, increased hours and days of the school year, focus on mathematics and science, and the effects of increased funding to support educational goals (O'Shea & O'Shea, 1997). In 1983, *A Nation at Risk, the Imperative for Educational Reform*, a report from the National Commission on Excellence in Education, was published. It declared that American schools faced a "rising tide of mediocrity," and that America was in danger of falling behind its international competitors because of the poor performance of its students (NCEE, 1983, p. 18). This report imprinted the term "nation at risk" in the public's consciousness by stating that America's children would not be prepared to compete in the global workforce.

Berliner and Biddle (1995) later discredited this report and called it a "manufactured crisis" (p. 28). Nevertheless, Slavin (2005) asserted that this report has altered the way Americans view education and that "American schools have been continuously engaged in reforms, mostly directed at increasing accountability among educators for student performance on state tests" (p. 45). Slavin further "more than 20 years after *A Nation at Risk*, the achievement of U.S. students is virtually identical to what it was in the early 1980s" (p. 5). According to Grigg, Daane, Jin, and Campbell (2003), the National Assessment of Educational Progress (NAEP) has shown small improvements in mathematics since 1980.

Comprehensive School Reform

Cohen and Hill (2001) noted that the publication of *A Nation at Risk* “galvanized hundreds of other study groups, commissions and reports” (p. 14). Within 3 years, 35 states had enacted comprehensive reforms, which emphasized increased courses and test taking for America’s students (Orfield & Kornhaber, 2001). During that time, the back-to-basics educational reform took precedence, and textbooks, rote learning, and lecture dominated the educational classroom environment (Darling-Hammond, 1997). The 1989 national educational conference of state and local officials, educators, parents, and community business leaders led to the adoption of The National Educational Goals, which encouraged schools to work on improving student achievement (U.S. House of Representatives, 1994).

Reforms continued in the 1990s, with instruction highlighted as a primary focus for preparing students to compete in a global economy (U.S. House of Representatives, 1994). Technology and the information age constituted the force for educational change. Comprehensive School Reform was the leading political issue (Cohen & Hill, 2001). O’Shea (2005) wrote, “As we enter the second administration of President George W. Bush, the regulations of No Child Left Behind are affecting school districts across the United States” (p. ix). O’Shea stated that school leaders and public policy experts continued to focus on national school reform movements “that deal only tangentially with standards achievement” (p. 1).

O’Shea (2005) summarized the events that have brought educators to the present state of educational accountability in the United States:

In the fall of 1989, President George H. W. Bush presided over a U.S. education summit for state governors in Charlottesville, Virginia. This historic meeting

gave rise to state academic content standards that have displaced national curriculum standards in leading school reform in the United States. As a result of this meeting, power and influence over curriculum moved dramatically away from the local school districts and into state executive offices, state legislatures, and state departments of education. This sudden transfer of power from local school districts to state authorities was surprisingly short-lived. Before states could even formulate policies and procedures to use the power of their standards, their influence over curriculum was trumped by the federal government through the reauthorization of the Elementary and Secondary Act, now known as No Child Left Behind (U.S. House of Representatives 2001).

NCLB addressed children limited in English proficiency, including immigrant children and youth, and pledged to ensure those children met academic standards in English (U.S. House of Representatives 2001). NCLB also addressed preventive and intervention programs for children attending Title I schools and proposed to improve educational programs that would impact student achievement. An additional change to Title I required that schools meet adequate yearly progress (AYP) goals. Schools that fail to meet these goals for 2 consecutive years are identified as being in need of improvement. This status opens the door to public school choice (U.S. Department of Education, 2001).

Glennan, Bodilly, Galegher and Kerr (2005) described the need for school reform in the following manner:

Fifty-two years ago, *Brown v. Board of Education* set in motion a series of legislative judicial efforts to undo the effects of racial segregation, providing opportunities and support for children who had been denied both. Twenty-two

years ago, the publication of *A Nation at Risk* (National Commission on Excellence in Education, 1983) drew attention to the need for reform in all of America's schools to ensure the nation's ability to compete in the international economy. The two forces—improving the quality of schools for all students and reducing the gap in access and achievement—have presented a demand for better approaches to teaching and learning. (p. 53)

These researchers addressed both the demand side and the supply side for improving the educational program in the United States. They stated that “the nation has given education a high priority, even the face of economic downturns and international turmoil” (Glennan et al., 2005, p. 69). The federal government, through the No Child Left Behind Act of 2001, has continued to press for improvement in educational performance within the many social and ethnic groups and is holding schools accountable for achieving it. “On the supply side, private philanthropists and the federal government have invested heavily in developing and disseminating innovative reforms intended to change the existing practices of teachers and schools” (Glennan et al., 2005, p. 89).

CSR and Student Achievement

From its inception, Comprehensive School Reform has motivated studies focused on the implementation of reform models without specifically addressing the reform's impact on student achievement. More recently, however, there have been studies of CSR school wide reforms that have provided various findings with regard to student achievement. These studies produced research findings that address the impact of CSR on student achievement.

The first portion of the literature review provides the most current research on the impact of CSR on student achievement. The second portion of the review focuses on the research concerning professional development (one of the 11 components of CSR) and its impact on student achievement. The literature review concludes with research highlighting mathematics achievement and the significance of maintaining professional development with regard to its impact on student achievement in mathematics.

The most current researchers of CSR include Borman, Hewes, Overman, and Brown (2003), who completed a meta-analysis of the achievement effects of 29 externally developed programs and reported their results in *Comprehensive School Reform and Achievement*. Their research explored externally developed CSR models that had been the focus of at least one prior study having positive or negative results regarding the impact on student achievement. The study highlighted three particular models that appeared to have had a significant impact on student achievement. The researchers also assessed how the effects of various CSR components, including professional development, positively impacted student achievement. They described their activities:

In this exhaustive meta-analysis, we review all known research on the achievement effects of the most widely implemented, externally developed school improvement programs known as “whole-school” or “comprehensive” reforms. We identify common components, such as whether the model includes particular curriculum or whether it specifies and provides a plan for the ongoing professional development of teachers. (p. 1)

As an evolving reform, CSR has limitations with regard to the quantity and quality of studies that support its effects on student achievement. Of the 29 models, 12

are supported by 5 or more studies of achievement effects. About 50% of the analyses used a type of quasi-experimental control group. Schools implementing CSR outperformed similar control schools (not implementing a CSR model) by about 55% on reading and math assessments. Contextual differences in the poverty levels of schools appeared to benefit from CSR implementation. This meta-analysis studied the impact of CSR on student achievement.

McLaughlin (1990) revisited The Rand Change Agent Study that introduced and supported innovative practices in education. The Rand study was cited as the first significant federal level attempt to stimulate change in local educational practices. It included 293 local projects in 18 states, funded by the U.S. Office of Education, to enhance student achievement. The results of the study indicated that active commitment of district leadership was essential to implementation and project resources. Ineffective strategies included reliance on outside consultants, packaged management approaches, and one-shot approaches for preimplementation training. Effective strategies included those reforms that reflected concrete, teacher-specific and extended training, teacher observations of effective strategies implemented in other classrooms, regular project meetings, principals' participation in training, and teacher participation in project decisions.

Three major longitudinal studies emerged from the review of research: the *U.S. Department of Defense (DOD) Longitudinal Assessment of Comprehensive School Reform: Implementation and Outcomes: First Year Report* (Tushnet & Flaherty, 2004); *The Lifecycle of CSR* (Aladjem et al. 2005); and *Comprehensive School Reform: A Longitudinal Study of School Improvement in One State* (Good, Burross, & McCaslin,

2005). These three studies were chosen for their comprehensive nature and evaluation of Comprehensive School Reform. The U.S. DOD study (Tushnet & Flaherty, 2004) evaluated implementation and outcomes of the effectiveness of CSR implementation in schools with diverse characteristics. This study included 400 schools implementing CSR and 400 non-CSR schools with similar demographic and achievement characteristics. Data sources included surveys of principals and teachers, field-based study of 15 pairs of schools (CSR and non-CSR), and descriptive analysis of interviews and classroom observations. Findings indicated that 41% of CSR schools had an effectively implemented school learning plan, compared with 30% of non-CSR schools, and that CSR schools provided more than 10 days for professional development.

The second study (Borman & Overman, 2004) addressed the need to implement a research-based school reform model as a strategy for increasing student achievement. Participants included 650 elementary and middle schools with a focus on third through eighth grades in 21 districts in urban areas of 16 states; 64 district administrators, 650 principals, and 5000 teachers participated in the study. A mixed methodology was utilized and included surveys, observations to evaluate instruction, interviews, and a quasi-experimental design-matched treatment with control schools. Results of this study confirmed that implementing CSR is a complex process and that its effect on student achievement is still uncertain (in some cases). The researchers stated, “The uncertainty makes it difficult to deliver a direct conclusion on the association between CSR and student achievement” (p. 179). They did assert that CSR schools improved fidelity of implementation over time.

Good et al. (2005) evaluated the longitudinal student achievement effects of third, fourth, and fifth grade students. Forty-eight schools in Arizona (24 CSR and 24 non-CSR) were matched on similar demographics, enrollment, and percent of students receiving free or reduced-price lunch. The results revealed no overall significant differences between CSR and non-CSR schools; however, 28 of the 48 schools made the top-15 ranking in at least one subject and two schools held top ranking—one CSR and one non-CSR school. Differences in achievement gains of CSR schools and the matched sample of non-CSR schools were not significant. Although greater progress was noted in math than in reading, gains in performance in CSR schools could not be attributed to the CSR program.

Borman, Hewes, Overman, and Brown (2003), in *CSR and Student Achievement: A Meta-Analysis*, reported their findings on the achievement effects of nationally disseminated and externally developed school improvement “whole-school” or “comprehensive” reforms (p. 4). School reform programs included in this study were required to meet four basic criteria: school wide reform design, one prior study of the program that provided positive or negative results, a model that was external from the participating schools, and a model that had been replicated in 10 or more schools. This meta-analysis found that the CSR effects were statistically significant. CSR students scored one eighth of a standard deviation higher on achievement tests than non-CSR students. The average student attending CSR schools outperformed by 55% the control group of non-CSR students. The researchers stated that CSR remained an evolving field and there continued to be a need for studies supporting the impact of achievement effects.

Effects of Comprehensive School Reform in 12 Schools: Implication of a Three-Year Study by Holdzkom (2002) provided additional research on CSR and student achievement. This study related to the topic because it addressed the effects of CSR on student achievement. Participants in the study included 12 CSR and 12 matched non-CSR schools. The mixed methodology of this study included classroom observations, interviews with teachers and principals, and surveys. The reported findings noted achievement gains in the 3rd year of CSR implementation. Student achievement gains were statistically significant based on research-based strategies that included direct instruction, ability grouping, and higher order questioning and student discussion.

In *Comprehensive School Reform in Culturally and Linguistically Diverse Contexts: Implementation and Outcomes from a Four-Year Study*, Datnow, Borman, Stringfield, Overman, and Castellano (2003) studied the impact of CSR with regard to the achievement of English-as-a-second-language (ESL) students and minority students. These are two of the subgroups identified within the federal mandate of NCLB and AYP (U.S. Department of Education, 2001).

This study relates to the current research topic because it addressed the impact of school reform on student achievement, specifically, the reform practices that improve education for culturally and linguistically diverse students. The study, in which 13 culturally and linguistically diverse elementary schools participated, included qualitative and quantitative methodologies. Using a quasi-experimental design, the researcher included 300 interviews, annual site visits, and focus groups in the data analysis. The study focused on a cohort of first grade students who participated in CSR schools or non-CSR schools. Each group of students was given a pretest and a posttest during a 4-year

period as they moved through the first, second, third, and fourth grades. At the end of the 1st year of CSR implementation, CSR students in first grade earned a math achievement scale score of 546.01 versus 533.28 for control students.

At the end of the 4-year study, 5 of the 13 schools continued to implement reform designs with moderate to high levels of intensity, whereas reforms expired in six of the schools and two schools exhibited low levels of CSR implementation. CSR schools with high levels of implementation continued to reflect higher levels of student achievement for culturally and linguistically diverse students. This study relates to the topic of Comprehensive School Reform as it included research on the implementation of CSR with limited English proficient (LEP) students. This subgroup is included in the AYP requirement of NCLB.

Although LEP students make up one of the largest growing subgroups in the United States, the language of nearly all standardized assessments is English. This variable places the LEP student at a disadvantage compared with students in the other subgroups. This study demonstrated the impact of CSR on student achievement in the NCLB subgroup categories that include students from major racial and ethnic groups, economically disadvantaged students, students with disabilities, and LEP students.

Steven Ross, a leader in Comprehensive School Reform research, with Tabachnick and Sterbinsky (2002), reported “factors [that] contributed to success or lack of success in raising achievement over time” (p. 6). Of the 104 elementary schools in Memphis at the time of their study, 72% were school wide Title I schools. The Memphis study included a first cohort of 65 elementary and middle schools and a second cohort of 12 Title I elementary schools between 1995 and 2000. The personal and professional

goal of district superintendent Gerry House was to “reverse the steady decline of achievement scores in Memphis schools” (Ross et al., p. 10). This study examined factors contributing to the degree of success with schools implementing CSR.

Quantitative data included socioeconomic status, student stability, percent of minority students, implementation ratings of CSR, and student achievement based on pretests and posttests administered from 1995 to 2000. Qualitative data sources included surveys and interviews related to school climate, leadership, and teacher buy in of the adopted reform. Findings revealed a significant quantitative correlation and qualitative relationship between implementation and student achievement gains. Based on this study, the researchers stated, “The need for quality ongoing professional development becomes critical” (p. 14). The qualitative data also summarized the impact of external facilitators, coaches, and providers of CSR designs who were “well trained, knowledgeable, and effective in working with staff” (p. 16).

Wetherill and Applefield (2005) conducted similar research; their study paralleled the Memphis study (Ross et al., 2002) with an analysis of eight North Carolina schools that implemented CSR. The researchers described CSR as a “meta-strategy” designed to achieve effective and lasting school improvement (p. 198). The qualitative analysis included data from principal and teacher interviews as well as teacher perception surveys regarding four change states during the 1st year of CSR implementation: premature, hesitant, developing, and established. Evidence from the statements of principals and teachers was correlated with observations by CSR evaluation teams. Findings indicated that three schools were in the premature change stage, one school was in the hesitant change state, and four schools were in the developing change state. At the time of the

study, no schools were in the established change state of CSR implementation. In their summary, Wetherill and Applefield (2005) wrote, “Professional development is critical for successful change efforts” (p. 212).

The *Utah Comprehensive School Reform Evaluation Report*, completed by Houston and Pounder (2005), provided an evaluation of CSR efforts in 16 schools located in 6 different school districts. Each school implemented one of the six recommended CSR models. This study produced qualitative and quantitative data on the academic achievement of students based on 264 surveys received from the 458 staff members and criterion-referenced test data collected from 2002 to 2004. Using data generated from the surveys, it was concluded that the impact of CSR on student learning was favorable or very favorable across subject areas and grade levels for high- and low-performing student groups.

In summary, Comprehensive School Reform (CSR) successes and failures are impacted by several factors: federal, state, and local support; effective or ineffective implementation by teachers, principals, and district-level administrators; and quality of the implementation of effective research-based strategies supported by consistent professional development. Government reforms in education recently evolved from the requirements stipulated by the NCLB legislation. NCLB requires that no child be left behind; all children must meet minimum competencies. Therefore, educators are required to be prepared to teach a wide range of learners. The final discussion topic in the review of literature—professional development—addresses the need for additional training to help current educators learn effective research-based strategies that will enhance instruction and impact student achievement for all students, especially students

attending Title I schools. Professional development is a major component included in educational reforms. Local and site-based training is a method of addressing the needs of teachers and administrators working to enhance school wide reform efforts designed to have a positive impact on student achievement.

Professional Development

DuFour and Eaker (1998) discussed the three streams of professional development that are linked to the national standards identified by the National Staff Development Council (NSDC) for elementary schools. These standards for professional development provide benchmarks for assessing school programs. The standards are organized into three categories: (a) content, which addresses the “what” of staff development—the actual skills or knowledge educators need to possess or acquire; (b) process, which addresses the “how” of staff development—the means by which educators acquire the knowledge and skills; and (c) context, which refers to the organization, system, or culture that supports staff development initiatives (p. 256).

Sparks and Hirsh (1997) wrote the following about the need for professional development:

Research and experience have taught us that wide-spread, sustained implementation of new practices in classrooms, principal’s offices, and central offices requires a new form of professional development. This staff development not only must affect the knowledge, attitudes, and practices of individual teachers, administrators, and other school employees, but it also must alter the cultures and structures of the organization. (pp. 1-2)

Leading school reformers Darling-Hammond and McLaughlin have recognized the link between professional development and comprehensive school reform. They have supported a new era of professional development that parallels the ways that students learn with the ways that teachers learn. Lieberman (1995) asserted that children learn “from a variety of learning opportunities that engage them in experiencing, creating, and solving real problems, using their own experiences, and working with others and this for some reason has been denied to teachers when they are learners” (p. 591).

Darling-Hammond and McLaughlin (1995) connected the reform climate with the professional development of teachers, noting its prominence: “Staff development that is linked to a reform agenda must support a learner-centered view of teaching and a career-long conception of teachers’ learning” (p. 597). Darling-Hammond and McLaughlin asserted further:

The success of this agenda ultimately turns on teachers’ success in accomplishing the serious and difficult tasks of *learning* the skills and perspectives assumed by new visions of practice and *unlearning* the practices and beliefs about students and instruction that have dominated their professional lives to date. Yet few occasions and little support for such professional development exist in teachers’ environments. (p. 597)

Dilworth and Imig (1995) also linked the importance of school reform with the professional development of teachers: “Without the continuous improvement of teaching (and of professional teachers), the reforms will fail. Professional development must serve the purpose of promoting teachers’ continuous learning...within the social contexts in which teaching takes place” (p. 4). Fleming (2005) stated, “In professional learning

communities, teachers and administrators are actively involved in a process of continuous learning. They examine the options and determine the best course of action...to best meet the needs of their students” (p. 20). Edmonds (1979) had concluded earlier that “there isn’t a single educational problem that doesn’t have a solution”; “we can, wherever and whenever we choose, successfully teach all children whose schooling is of interest to us” (p. 23). He asserted that the gap could be closed by improving incrementally the staff development budget from ½ percent to 1 percent, declaring that even an additional ½ percent, properly targeted, can make a difference. Marzano, Pickering, and Pollock (2001) noted, “Educators are at a special point in time because the ‘art’ of teaching is rapidly becoming the ‘science’ of teaching and this is a relatively new phenomenon” (p. 1).

Two major studies evaluated professional development. The first study included a national sample of 1,027 teachers from 93% of all districts receiving Eisenhower funding (Garet, Disimone, Porter, Birman, & Yoon, 2001). The teachers were surveyed regarding six key elements of professional development: three structural features (form, duration, and collective participation), and three core features (content, active learning, and coherence). Survey results revealed that most district-level professional development did not include the six key features. The average time provided for professional development was fewer than five days and the average number of contact hours was 25. Although efforts were made to update professional development, only 23% of the teachers sampled were participating in reform types of professional development (deprivatized practices, study groups, co teaching, or mentoring relationships).

The second longitudinal study was a follow-up study conducted by the same researchers (Desimone, Porter, Garet, Yoon, & Birman, 2002). The purpose of this study was to examine the effects of professional development on teachers' instruction in math and science during a 3-year period from 1996 to 1999. A component of the evaluation of the Eisenhower Professional Development Program (Title II of ESEA), this sample included 207 teachers in 30 schools, from 10 districts, in 5 states; 57% of the schools were high-poverty schools. The participating schools offered reform and traditional types of professional development. This study also included an evaluation of the six key elements of professional development. The findings revealed that 79% of the teachers participated in traditional forms of professional development, whereas only 18.7% were actively engaged in reform models of professional development. The mean contact time during a 1-year period was 18.2 hours, and the mean number of days spent in professional development was 3.81. The results of the study indicate that both reform and traditional professional development activities may provide effective teacher interaction; however, reform activities tend to involve longer implementation, thus providing for additional active learning.

Wenglinsky (2002) connected classroom practices of teachers to student achievement. The purpose of his study was to determine whether or not teacher quality is linked to student achievement, based on the implications of professional development teachers had received in support of classroom practices. This study included 7,146 eighth-grade students who took the 1996 National Assessment of Educational Progress (NAEP) math assessment. Over a 5 year period, professional development on the following topics was assessed: (a) cooperative learning, (b) higher order thinking skills,

(c) classroom management, (d) portfolio assessment, (e) performance-based assessment, (f) cultural diversity, (g) teaching special needs students, and (h) teaching LEP students (p. 44). Wenglinsky used multilevel structural equation modeling (MSEM) involving two components, factor models and path models, to determine whether or not professional development is related to student achievement. Only one third of the eighth-grade students were taught by teachers who had received professional development in cultural diversity, one fourth were taught by teachers who had received professional development in teaching students with special needs, and one tenth were taught by teachers who had received professional development in teaching LEP students.

Wenglinsky (2002) reported that when class size and SES were included as factors, only two areas of professional development, addressing special populations of students and higher order thinking skills, had significant effects on student achievement. The standard coefficients were .12 and .21, respectively. “Students whose teachers received professional development in learning how to teach different groups of students substantially outperformed other students” (Wenglinsky, p. 46). The more professional development teachers received on differentiating instruction in working with student populations, the more they engaged their students in higher order questioning and problem-solving strategies.

Mathematics and Professional Development

Cohen (2004) made an important contribution to the empirical and conceptual understanding of teacher learning by sharing the complexities of teachers’ learning about mathematics, students, teaching, and changing their teaching strategies. She acknowledged that the previous 15 years had escalated an interest in support of new

teaching practices—not in just one subject matter, but across the board. Cohen explained that national standards projects, new curricula, and new assessment tools had focused on teacher education, thereby leading to improved instruction: “Some themes [were] heard again and again: preparing our children for their lives in the 21st century, offering equal access to quality education for all children, and creating classrooms in which children work to build deep understandings of subject matters—taking on the work of scientist, historian, mathematician, or writer” (p. 2).

In this case study, Cohen (2004) examined the Developing Mathematical Ideas (DMI) seminar with 23 elementary school teachers from across Massachusetts. One group of 12 teacher participants was from an urban community, and the other group of 11 teacher participants was from a rural community. The participants were classroom teachers whose students ranged from preschoolers to sixth graders. Teachers taught students in regular education classrooms, special education settings, and bilingual classrooms. DMI seminars supported teachers’ own study of the elementary school mathematics curriculum, as well as their study of the development of children’s mathematical ideas. Cohen wrote, “It provided teachers with ongoing experiences as students in a teaching learning environment that is consistent with the teaching practices envisioned by the Standards” (p. 9). Practicing teachers met once every 2 weeks for 3 hours using a variety of modules: Some of the modules contained a variety of mathematical topics, including number and operations, geometry, exploring data collection, and analysis.

Qualitative data collection included videotapes of seminar sessions, transcripts detailing conversation and activity during classroom observations, teacher portfolios containing 16 entries, and 45-minute audio-taped interviews. Cohen (2004) reported,

Three strands provide the focus for the professional development training [DMI] and implementation of effective strategies: (1) Teachers' increasing awareness of themselves and of children as "havers" of mathematical ideas and understanding, and their growing desire to give these ideas a central place in the classroom; (2) Teachers deepening their own understanding of the mathematics they teach; and (3) Teachers building teaching practices that work with the children's understandings as together and individually they construct new ideas. (p. 21)

Findings in this case study indicated that classroom teachers' practices evolved during the year; many teachers described noticeable changes in their portfolios. They cited students' beginning to experience the subject matter of mathematics and the classroom community differently. Cohen (2004) reported,

The teachers noticed an increased student engagement and this was observed in four ways: (1) The students enjoy mathematics, (b) they feel like they can do it, (c) they go further and more deeply into the subject matter than their teachers thought was possible, and (d) a new kind of community is built. (p. 139)

The three aforementioned strands reflected a positive direction of change in the teaching and learning of mathematical concepts, skills, and problem-solving strategies. Conclusions relating to the three strands indicated that teachers quickly grasped the general understanding that children have mathematical ideas; however, it was a slower process for teachers and students to reflect on their own ideas. Teachers became more

engaged and active mathematical thinkers. Teachers' classroom practices changed more rapidly to support children's communication of their mathematical thoughts. In summary, Cohen (2004) stated, "We must create, offer, and participate in effective professional development for teachers...and create a culture that provides a safe and supportive community in which to work" (p. 258).

An additional case study (Baker, Gersten, Dimino & Griffiths, 2004) examined teachers' implementation of instructional innovations to enhance students' proficiency in mathematics. This study focused on peer-assisted coaching of mathematical learning strategies and the teachers' perceptions of instruction reform. Eight teachers from a Title I elementary school serving 400 kindergarten through fourth-grade students participated in the study. The enrollment of this Title I school consisted of 68% free or reduced-price lunch, 56% African American, 40% European American (Caucasian), 2.7% Asian, and 2% American Indian students. This multi-method case study collected qualitative data utilizing teacher interviews and classroom observations, as well as quantitative data from teacher surveys focused on efficacy and school environment. After interviews and observations were transcribed and coded, researchers noted emerging themes. Peer coaching impacted the implementation of professional development strategies. The school invested Title I funds to continue support of professional development training for teachers, and sophisticated strategies were implemented in other subjects.

The teaching and learning of mathematics continues to be a primary focus in education as educators prepare students for the workforce in the 21st century. Bennett, Rhine and Sloan (1999) completed a study in California of 21 elementary classrooms with three groups of teacher volunteers. After receiving extensive professional

development training, two groups used the *Seeing Fractions* and *My Travels with Gulliver* programs and the third group used traditional textbooks. The diverse student population was made up of 64% Latino, 14% Caucasian, 8% African American, and 7% Asian students. Using qualitative, comparative design methodology, the researchers transcribed videotapes and field notes of the same lessons in each of the three groups. Findings indicated that the use of a curriculum that reflects reform recommendations positively affects students' opportunities to learn; benefits of professional development impact students' opportunities to engage in mathematical concepts and problem solving. Students' learning gains were greater in classrooms where teachers had participated in and implemented effective strategies.

As a proponent of professional development for educators, Linn (2006) asserted that the survival and improvement of the American educational system is based on effective and sustained professional development for all teachers:

Learning and change in education is a matter of character and commitment.

Inquiry, reflection and sharing occur as a result of character. If school leaders fail to value teachers as individuals and professionals, we are bound to fail in the mission to serve and educate students. (p. 3)

Summary of Literature Review

The literature review provides information for the theoretical framework of Comprehensive School Reform with a focus on the CSR domain of professional development as well as the impact of professional development on mathematics achievement. The latest movement in Comprehensive School Reform impacts student achievement and what schools, particularly Title I schools, can do to enhance student

achievement. Juxtaposed with the students attending Title I schools are the educators who need to be highly qualified and highly trained to teach the challenging and diverse population of students attending America's public schools. The link that ties the areas of Comprehensive School Reform to student achievement is professional development.

Because of the No Child Left Behind Act of 2001, all public schools across the United States are under pressure to improve the academic standards that impact student achievement. Schools must demonstrate the academic success of all students by making adequate yearly progress (AYP) for all groups of students, including poor, minority, LEP, and special education students. School wide reform models are being incorporated in schools across the country to enhance the accountability of mastery teaching and mastery learning for teachers, students, administrators, and school divisions. The ultimate goal of Comprehensive School Reform is to serve as a catalyst for change in instructional practices that will improve the academic achievement of students.

The purpose of this literature review was to examine the professional development of CSR and the ways in which it impacts student achievement in mathematics. These studies have provided insight and statistical data regarding the impact of professional development in various educational settings as well as its effect on student achievement in mathematics. Professional development, mandated for schools that use Title I funds, must seek best-practice, research-based strategies to improve educators' understanding of how to teach students with disabilities, students with special learning needs, those from low socioeconomic backgrounds, minority students, and those with limited English proficiency (Cohen & Hill, 2001), as well as those who are labeled "at promise" (Bell, 2005).

Comprehensive School Reform

As the role of federal, state, and local school districts increases with regard to the accountability for achievement for all students, professional development and comprehensive school reform become important instruments to facilitate change. This change includes student improvement in academic achievement and teacher growth resulting from sustained professional development.

Comprehensive School Reform (CSR) is one avenue of providing educators with methods and strategies grounded in scientifically based research. This type of reform provides a road map for school leadership teams and teachers to become more knowledgeable about effective schooling and effective teaching research that enhances planning and goal setting, school management, school leadership, and curriculum and instruction, all of which impact student achievement.

The research studies presented in this chapter indicate a need for additional research regarding the impact of Comprehensive School Reform, specifically addressing the professional development component, technical assistance providers, and instructional strategies. Although all 50 states implement Comprehensive School Reform, the review of literature did not uncover research specifically addressing the impact of the technical assistance providers. This study provides information regarding the impact of the technical assistance provider, as perceived by principals, teachers, and technical assistance providers themselves, on student achievement in mathematics.

CHAPTER 3: RESEARCH METHODOLOGY

Introduction

This study provides information regarding the impact of the professional development component of Comprehensive School Reform on the mathematics achievement of third and fifth grade students attending selected Title I schools in Virginia. A qualitative research design was used to examine data from a focus group of four technical assistance providers, six principals interviews, and thirteen teacher surveys. The intent was to describe how the implementation of the professional development component of CSR contributed to the mathematics achievement of students who attend 13 identified Title I elementary schools (2003 CSR cohort) in Virginia. As stated in chapter 1, the research questions that guided this inquiry are the following:

1. Overarching question

- Is the CSR process effective in improving the achievement in mathematics of third and fifth grade students?

2. Three subordinate questions

- A. Has the technical assistance provider impacted the professional development component of CSR?

- B. Has professional development impacted instruction in the classroom?

- C. In what way has the professional development component of CSR impacted the instruction of mathematics of third and fifth grade students attending the 2003 CSR cohort of schools in Virginia?

This chapter contains information about the method of research used to gather data to answer these questions. It also includes justification for the research design as well as information about sample selection, data collection procedures, instrument design, data management, and data analysis; it concludes with a summary of the methodology.

Research Design

Qualitative Research Design Strengths

In a qualitative study, the researcher is committed to spending extensive time in the field collecting data and gaining access to data through interviews, surveys, and observations. This commitment can be considered a strength because the activities provide the researcher with opportunities to observe and participate in the process or program that is being researched. One rationale for implementing a qualitative study lies in the notion that comprehensive school reform is a topic that warrants continued exploration. Qualitative methodology provides avenues for researchers to observe individuals in their natural setting and to have personal contact with those involved in school reform. In this study, interviews and survey results from the focus group of technical assistance providers provided additional data regarding the impact of Comprehensive School Reform as well as the effectiveness and efficacy of the implementation of school reform.

Qualitative Research Design Weaknesses

Weaknesses in the implementation of a qualitative method may include the amount of time needed to collect extensive data, the amount of energy needed to conduct interviews, and the lengthy process involved in transcribing the interviews. Although

surveys and interviews may be structured in design, the outcomes or results are considered to be subjective. The researcher must have patience and skill as she relies on participants to be candid in discussing their experiences in the school reform process. A qualitative researcher also faces ethical issues during data collection and dissemination of reports; the researcher must take care to protect the anonymity of the participants and the sources of collected and published data. Thus a weakness in the qualitative research design lies in its tendency to produce soft results because it is subjective, inductive, and not generalizable, relying heavily on narration and feelings reported by the respondents and interpreted by the researcher (Creswell 2003).

A qualitative design was used to gather data for this study. Creswell (2003) wrote, “The concept of mixing different methods probably originated in 1959, when Campbell and Fiske used multiple methods to study validity of psychological traits” (p. 15). He continued, “Researchers felt that biases inherent in any single method could neutralize or cancel the biases of other methods” (p. 15). This research design was utilized to capture diverse types of data to provide answers to the research questions.

Instrumentation

The three instruments used in this study were developed by the researcher; they were utilized in conducting a focus group, interviews, and a survey. A focus group interview provided the researcher with data collected from the technical assistance providers who participated in CSR. Interviews enabled the researcher to collect information from individuals representing the principals. The third instrument was a survey of third and fifth grade teachers who participated in CSR. The researcher requested and received approval to use the validation instrument tool to validate

interview and survey instruments for this study. This approval is illustrated in Appendix A.

Technical Assistance Provider Focus Group Interview

The first phase of this study involved the exploration of the technical assistance providers' impact on the professional development component of CSR and, ultimately, student achievement in mathematics. The focus group interview consisted of nine open-ended questions and five questions soliciting technical assistance provider demographics. The focus group provided qualitative data regarding their attitudes and perceptions of Comprehensive School Reform as the process was implemented in their respective schools.

The focus group of TAPs consisted of four people who served with the 2003 CSR cohort of participating schools. Within a 2-hour time frame, the focus group was asked to reflect on questions posed by the researcher, who served as the interviewer in this process. One purpose of the focus group was to collect high-quality data while interacting with the respondents. This process provided opportunities for clarification and follow-up questions. It also allowed participants to build upon the responses of other group members. The focus group letter and interview questions are included in Appendix B.

The focus group instrument was validated for clarity, content, and correlation with the research questions by an external researcher and members of the 2003 Virginia Polytechnic Institute and State University Tidewater Doctoral Cohort. Revisions were made based on the responses noted on the focus group interview validation table. The focus group validation table is included in Appendix C.

Principal Interviews

The second phase of this study involved examination of the principals' perceptions with regard to the impact of the professional development component of CSR on student achievement in mathematics. The principal interviews consisted of 13 open-ended questions and 9 questions soliciting principal demographics. These interviews provided qualitative data regarding their attitudes and perceptions of the professional development component of Comprehensive School Reform as the process was implemented in their respective schools.

The interviewees were seven school principals who served with the 2003 CSR cohort of participating schools. Within a 45-minute time frame, the principals were asked to reflect on questions posed by the researcher, who served as the interviewer in this process. One purpose of the interview was to collect high-quality data while interacting with the respondents. This process provided opportunities for clarification and follow-up questions. The principal letter and permission form are included in Appendix D; the principal interview questions are included in Appendix E.

The instrument was validated for clarity, content, and correlation with the research questions by an external researcher and members of the 2003 Virginia Polytechnic Institute and State University Tidewater Doctoral Cohort. Revisions were made based on the responses noted on the principal interview validation table. The principal interview validation table is included in Appendix F.

Teacher Survey

The third phase of this study involved determination of the teachers' perceptions regarding the impact of the professional development component of CSR on student

achievement in mathematics. The teacher survey consisted of 15 close-ended questions and 8 questions soliciting teacher demographics. The survey provided data with regard to the teachers' attitudes and perceptions of the professional development component of Comprehensive School Reform as the process was implemented in their respective schools. The survey sample consisted of 13 third and fifth grade teachers who taught in the 2003 CSR cohort of participating schools. The teacher letter is included in Appendix G; a copy of the teacher survey is presented in Appendix H.

The instrument was validated for clarity, content, and correlation with the research questions by an external researcher and members of the 2003 Virginia Polytechnic Institute and State University Tidewater Doctoral Cohort. Revisions were made based on the responses noted on the teacher survey validation table. The teacher survey validation table is included in Appendix I.

Interviews and surveys were conducted to collect data that were organized and analyzed for emerging themes. The overarching research question guiding this study was the following: Is the CSR process effective in improving the achievement in mathematics of third and fifth grade students? This study attempted to identify and investigate the professional development component of CSR as well as the role of the technical assistance provider and his or her impact on student achievement in mathematics. These two domains were considered to be instrumental in promoting student achievement.

The researcher discusses CSR and describes how each of the following domains contributes to student achievement: (a) professional development, (b) instructional strategies, and (c) technical assistance providers. These domains formed the theoretical framework that provided the foundation for this study. The researcher investigated how

the implementation of the professional development component of CSR in elementary schools in the Commonwealth of Virginia impacts student achievement in mathematics.

Research Design

A qualitative research design was used to collect data. The qualitative study design component included the participation of 4 of the 12 technical assistance providers (TAPs) in a focus group. This focus group provided qualitative data, including the attitudes and perceptions of their role as facilitator of professional development and its impact on student achievement. Based on the domains identified in the review of literature, underlying questions related to the overarching research question included the following:

1. In what way does professional development impact student achievement?
2. In what way do professional learning communities contribute to student achievement?
3. What CSR instructional strategies influenced student achievement?
4. How does the technical assistance provider promote Comprehensive School Reform?

Data were also collected to complete a trend analysis of mathematics scores from the SOL tests, including two years of pre-CSR data and three years of data collected during the implementation of CSR. These data were gathered from the Virginia Department of Education Web site, which presents SOL data for all Virginia schools.

Data Collection Procedures

The researcher obtained permission from the following sources prior to conducting the focus group, principal interviews, and teacher survey: (a) the Institutional

Review Board (IRB) of the Virginia Polytechnic Institute and State University, (b) superintendents or their designees representing the participating school divisions, and (c) administrators of participating schools. The letter used to obtain permission from the division superintendents is included in Appendix J. The Virginia Polytechnic Institute and State University's Institutional Review Board Initial Review Application was completed and the Initial Review Board Expedited Approval letter is included in Appendix K.

The qualitative procedures for data collection included interviews with a focus group of technical assistance providers, interviews by telephone or in person with 7 principals from the participating schools, and a survey of 13 third and fifth grade teachers. The researcher was one of the administrators included in the cohort of 14 schools; her school did not participate to eliminate the possibility of personal bias. The focus group and principal interviews were audio taped, coded, and transcribed. A principal interview protocol and the focus group interview protocol were read prior to conducting the interviews. The protocol script is included in Appendix L.

A survey was conducted to obtain information related to teacher perceptions regarding CSR, the impact of the TAPs, professional development, and mathematics instructional practices implemented during the 3 years of CSR. Additional information included categorical data: grade level, years of teaching experience, and approximate number of hours of professional development during the 1st year of CSR. Other survey questions addressed the role of the TAP as facilitator of professional development and specific instructional strategies implemented to impact student achievement in mathematics.

Focus Group Procedures

After receiving the Initial Review Board approval to conduct the study, the researcher contacted Dr. Anthony Dursa, Director of Comprehensive School Reform, at the Virginia Department of Education, to request contact information for the technical assistance providers from the participating schools. An email message provided Dr. Dursa with a summary of the proposed study and a letter of invitation to the technical assistance providers. Dr. Dursa contacted the technical assistance providers and informed them of the invitation to participate; he then informed the researcher of their responses. The letter addressed to the technical assistance providers is presented in Appendix B.

Principal Interview Procedures

After receiving permission from the Initial Review Board, the researcher mailed letters of invitation to the principals regarding their participation in an interview to take place in person or by telephone. The principals agreed or declined to participate in the interview by returning to the researcher the invitation in the self-addressed stamped envelope. A copy of the letter and invitation to participate is included in Appendix D.

Procedures for Collecting Virginia Standards of Learning Assessment Data

The researcher collected the mathematics SOL assessment scores for Grade 3 and Grade 5 mathematics for 3 years (2004, 2005, and 2006). These data served as the dependent variable for the study. The researcher retrieved this data from the Virginia Department of Education Standards of Learning School Reports that provided the SOL results for participating schools (VDOE, n.d.).

Data Analysis

The data gathered from the focus group and principal interviews were arranged in a matrix, analyzed, and summarized. Analysis using the Constant Comparative Method (Hewitt-Taylor, 2001) was utilized to identify emergent themes. Based on the analysis of data, the researcher identified emerging themes. The researcher triangulated data gathered from the technical assistance provider focus group, principal interviews, and teacher surveys and reported emerging themes. The researcher grouped emerging themes regarding the ways in which the professional development component of CSR in elementary schools in the Commonwealth of Virginia contributed to student achievement in mathematics. A triangulation of data was used to seek emerging themes and enhance the reliability of findings.

Reflection

Schools are under tremendous pressure to establish and maintain a positive impact on student achievement. Comprehensive School Reform (CSR) transforms the way a school operates to accomplish the goal of enhanced achievement for all students. The purpose of this study was to determine the impact of the professional development component of Comprehensive School Reform on the mathematics achievement of third and fifth grade students attending selected Title I schools in Virginia. The findings reported in this study can provide a heightened awareness for state and local stakeholders as they make legislative decisions to support the funding of Comprehensive School Reform. The review of literature heightened the researcher's interest in and knowledge of school reform, questioned the urgent need to address mathematics education in the

United States, and provided a framework for research regarding the impact of Comprehensive School Reform on student achievement in mathematics.

CHAPTER 4: REPORT OF FINDINGS

The purpose of this qualitative study was to determine the impact of the professional development component of Comprehensive School Reform (CSR) on student achievement, as measured by the third and fifth grade mathematics Standards of Learning assessments of the 2003 CSR cohort of selected schools in Virginia. This chapter is divided into six sections. The first section provides a review of the process conducted to collect data and includes descriptive characteristics of the participants. The next three sections provide qualitative results of the principal interviews, the focus group interview with the technical assistance providers, and the teacher surveys, reported by the research questions. The chapter concludes with a summary of common themes that emerged from the principal interviews, technical assistance focus group interview, and teacher surveys.

Overview of Process

This study investigated the impact of the professional development component of CSR on classroom instruction and student achievement in mathematics. Qualitative research strategies, specifically a focus group ($n = 4$), principal interviews ($n = 7$), and a teacher survey ($n = 13$), were used to collect data. Analysis using the Constant Comparative Method (Hewitt-Taylor, 2001) resulted in the identification of emergent themes. The interview transcripts and teacher surveys were coded by reading each of these documents and attributing a code to sentences, paragraphs, or sections. These themes permeated the results and influenced the linkages between domains. The

participants ($n = 24$) communicated their perceptions of the impact of professional development on the mathematics achievement of third and fifth grade students attending the seven CSR schools. The use of these research sources facilitated triangulation of the data. Data triangulation, as described by Gall, Borg, and Gall (1996), was used to strengthen the credibility of the study and help reduce bias that might have resulted from relying exclusively on any particular data collection method. Triangulation of the data was used to show how themes emerged from the three data sources that supported or did not support the overarching research question. As stated in chapter 1, the research questions that guided this inquiry were as follows:

1. Overarching question

Is the CSR process effective in improving the achievement in mathematics of third and fifth grade students?

2. Three subordinate questions

- A. Has the technical assistance provider impacted the professional development component of CSR?

- B. Has professional development impacted instruction in the classroom?

- C. In what way has the professional development component of CSR impacted the instruction of mathematics of third and fifth grade students attending the 2003 CSR cohort of schools in Virginia?

Institutional Review Board and Data Collection Instruments with Domains

On December 4, 2006, the researcher submitted an application to the Institutional Review Board (IRB) at Virginia Polytechnic Institute and State University; she received the approval letter on January 8, 2007. The IRB approval letter is found in Appendix K.

The researcher requested permission from the selected school divisions to participate in the study. The focus group questions, principal interview questions, and teacher survey questions were grouped into the domains that guided this research. Copies of the focus group, principal interview, and teacher survey instruments are included in Appendix C, E, and H, respectively. These instruments are depicted in Table 1, Table 2, and Table 3.

Most of the focus group interview questions focused on the technical assistance provider's involvement in the professional development component of CSR (three questions), and the effect of that professional development on classroom instruction (three questions). Two questions were related to the overall CSR process, and one question specifically addressed the impact of the professional development component on the mathematics achievement of third and fifth grade students being served in CSR schools.

Table 1

Focus Group Interview Questions and Domains

	Domain 1 CSR process	Domain 2A TAP & professional development component	Domain 2B Impact of professional development component on classroom instruction	Domain 2C Impact of professional development component on third- and fifth-grade mathematics achievement
Interview question	3	1	2	5
Interview question	8	4	7	
Interview question		6	9	

Table 2

Principal Interview Questions and Domains

	Domain 1 CSR process	Domain 2A TAP & professional development component	Domain 2B Impact of professional development component on classroom instruction	Domain 2C Impact of professional development component on third- and fifth-grade mathematics instruction
Interview question	4	2	5	1
Interview question		7	6	3
Interview question	8	11		10
Interview question	9	13		12

Most of the principal interview questions focused on the technical assistance provider’s involvement in the professional development component of CSR (four questions), and the

ultimate effect of that professional development on the mathematics achievement of third and fifth grade students being served in CSR schools (four questions). Three questions were related to the overall CSR process, and two questions addressed the impact of the professional development component on classroom instruction generally.

Table 3
Teacher Survey Questions and Domains

	Domain 1 CSR process	Domain 2A TAP & professional development component	Domain 2B Impact of professional development component on classroom instruction	Domain 2C Impact of professional development component on third- and fifth-grade mathematics instruction
Survey question	8	5	2	1
Survey question		6	3	12
Survey question	10	7	4	13
Survey question	11		9	
Survey question	16		14	
Survey question			15	

Most (six) of the teacher survey questions focused on the general impact of the professional development component of CSR on classroom instruction. Four questions were related to the overall CSR process. Three questions each related to (a) the technical assistance provider’s involvement in the professional development component of CSR

and (b) the ultimate effect of the professional development component on the mathematics achievement of third- and fifth-grade students being served in CSR schools.

As shown in Tables 1, 2, and 3, questions included on the three instruments were fairly evenly distributed according to the four domains of interest. The highest number of questions (11) related to the impact of the professional development component of CSR on classroom instruction, and the fewest number of questions (8) related to the specific impact of that component of CSR on third- and fifth- grade achievement in mathematics, as measured by the Virginia SOL tests.

Instrument Validations - First Attempt

On November 19, 2006, the researcher emailed Dale E. Margheim, Ed.D. to request permission to utilize his validation instrument for the principal and focus group interview questions and the teacher survey. The researcher received approval to use validation instrument November 20, 2006. The emailed approval is located in Appendix A. The validation instrument provided information about the domain, clarity, and association for each question. The purpose for validating each instrument was to ensure that at least 80% of the questions were accurately placed within the correct domain and to make certain the questions were clear and easy to understand. On November 30, 2006, the researcher completed the first validation of the technical assistance focus group questions, the principal interview questions, and the teacher survey with members of the 2003 Virginia Polytechnic Institute and State University doctoral cohort. Samples of the first validation instruments are located in Appendices C, F, and I.

The results of the first validation of focus group questions, principal interview questions, and teacher survey questions are illustrated in Table 4, Table 5, and Table 6, respectively.

Table 4

First Validation of Focus Group Questions

Question	Domain	Clarity	Association
1	85%	85%	85%
2	35%	92%	98%
3	85%	85%	91%
4	85%	85%	84%
5	57%	99%	85%
6	71%	92%	92%
7	85%	84%	84%
8	92%	99%	99%

According to Table 4, Question 8 of the focus group interview was identified by the reviewers according to the correct domain 92% of the time; Questions 1, 3, 4, and 7 were also associated with the correct domain most (85%) of the time. The clarity of each of the questions was confirmed by at least 85% of the reviewers; the clarity of Questions 5 and 8 was confirmed by virtually all (99%) of the reviewers. The reviewers agreed the questions correlated with the research questions. A second validation was completed for the domains of questions 2, 5 and 6.

Table 5

First Validation of Principal Interview Questions

Question	Domain	Clarity	Association
1	35%	92%	56%
2	92%	85%	85%
3	64%	84%	85%
4	92%	92%	99%
5	71%	77%	70%
6	71%	92%	91%
7	92%	92%	99%
8	64%	92%	70%
9	85%	92%	85%
10	78%	99%	99%
11	85%	91%	91%

According to Table 5, Questions 2, 4, and 7 of the principal interview were identified by the reviewers according to the correct domain 92% of the time; Questions 9, 10, and 11 were also associated with the correct domain most of the time (85%, 78%, 85%, respectively). The clarity of each of the questions was confirmed by at least 77% of the reviewers, with the clarity of most questions being confirmed by greater than 90% of the reviewers. The reviewers agreed the questions correlated with the research questions. A second validation was completed for the domains of questions 1, 3, 5, 6, 8 and 10.

Table 6

First Validation of Teacher Survey Questions

Question	Domain	Clarity	Association
1	71%	92%	70%
2	50%	99%	91%
3	50%	82%	91%
4	57%	92%	70%
5	92%	99%	91%
6	85%	92%	92%
7	92%	92%	99%
8	92%	99%	99%
9	78%	99%	99%
10	omitted	omitted	Omitted
11	omitted	omitted	Omitted
12	omitted	omitted	Omitted
13	omitted	omitted	Omitted
14	71%	99%	100%
15	57%	99%	99%

According to Table 6, Questions 5, 7, and 8 of the teacher survey were identified by the reviewers according to the correct domain 92% of the time; Questions 6 and 9 were also associated with the correct domain most of the time (85%, 78%, respectively). The clarity of all the questions except one was confirmed by more than 90% of the reviewers;

the clarity of Question 3 was confirmed by 82% of the reviewers. The reviewers agreed the questions correlated with the research questions. A second validation was completed for the domains of questions 1, 2, 3, 4, 9, 14 and 15.

On January 8, 2007, the researcher was granted permission to validate teacher survey questions 10, 11, 12, and 13, which had been inadvertently omitted during the first validation. The original first validation of data collection instruments occurred November 30, 2007, with members of the 2003 Virginia Polytechnic Institute and State University doctoral cohort. On January 16, 2007, members of the 2003 Virginia Polytechnic Institute and State University doctoral cohort completed the first validation of the omitted questions from the teacher survey. These survey validations are illustrated in Table 7.

According to Table 7, Questions 10 – 13, which had been inadvertently omitted during the original validation process, were identified according to the correct domain by more than three fourths (84%, 76%, 76%, and 76%, respectively). The clarity of all the questions was confirmed by most of the reviewers (84% for Question 10 and 92% for each of the remaining questions).

Instrument Validations - Second Attempt

On January 30, 2007, following revisions to the instruments, the researcher conducted a second validation to secure an 80% validation of the revised focus group interview questions (2, 5, 6, 9, and 10), principal interview questions (1, 3, 5, 6, 8, 10, and 12), and teacher survey questions (1, 2, 3, 4, 9, 11, 12, 13, 14, and 15) with members of the 2003 Virginia Polytechnic Institute and State University doctoral cohort. Calculations for the correspondence to the research question, clarity rating of each

question, and corresponding association with the research question provided the researcher with an 80% reliability and validity of the data collection instruments, as illustrated in Tables 8, 9, and 10.

Table 7

First Validation of Teacher Survey Questions 10, 11, 12, 13

Question	Domain	Clarity	Association
10	84%	84%	84%
11	76%	92%	92%
12	76%	92%	84%
13	76%	92%	84%

Table 8

Second Validation of Focus Group Questions

Question	Domain	Clarity	Association
2	92%	92%	92%
5	92%	92%	92%
6	92%	92%	92%
9	92%	92%	92%
10	84%	92%	92%

According to Table 8, four of the five focus groups interview questions undergoing a second validation were associated with the correct domain by almost all (92%) of the reviewers; the fourth questions was identified according to the correct domain by 82%.

The clarity of each of the five questions was confirmed by 92% of the reviewers. The reviewers agreed the questions correlated with the research questions.

Table 9

Second Validation of Principal Interview Questions

Question	Domain	Clarity	Association
1	84%	92%	92%
3	84%	84%	92%
5	84%	84%	92%
6	76%	84%	92%
8	84%	92%	92%
10	84%	84%	84%
12	100%	92%	92%
13	84%	92%	92%

According to Table 9, all eight of the principal interview questions undergoing a second validation process were identified by the reviewers according to the correct domain at least 76% of the time, most 84%, and one 100%, of the time. The clarity of four of the questions was confirmed by 92% of the reviewers, with the clarity of the remaining four questions being confirmed by 84% of the reviewers. The reviewers agreed the questions correlated with the research questions.

Table 10

Second Validation of Teacher Survey Questions

Question	Domain	Clarity	Association
1	84%	92%	84%
2	84%	92%	92%
3	84%	92%	84%
4	84%	84%	84%
9	84%	84%	92%
11	84%	84%	84%
12	84%	92%	92%
13	84%	84%	92%
14	84%	84%	84%
15	92%	92%	92%
16	84%	84%	84%

According to Table 10, all but one of the 11 teacher survey questions undergoing a second validation process were identified by the reviewers according to the correct domain 84% of the time; the remaining question was correctly identified 92% of the time. Percentages were similar for the clarity of the questions: the clarity of five questions was confirmed 92% of the time, and the remaining six 84% of the time. The reviewers agreed the questions correlated with the research questions.

School Division Participation

On January 8, 2007, the researcher mailed letters to the seven superintendents whose schools participated in the 2003 Comprehensive School Reform (CSR) cohort. Letters to the superintendents are illustrated in Appendix J. These letters included a copy of the IRB approval letter (Appendix K) and a copy of the principal letter and interview questions (Appendices D and E, respectively); copies of the teacher letter and survey (Appendices G and H, respectively) were also included.

On March 5, 2007, the researcher completed follow-up phone calls to the two superintendent designees who had not responded. One superintendent's designee did not permit the researcher to contact the designated principals until the designee received communication from the principals that they were interested in participating in the study. Thus, the researcher received the following email: "The other principals did not respond that they agreed to allow you to contact them about participating in your study. Further solicitation is not allowed." The seventh superintendent's response was signed March 16, 2007 and received by mail March 21, 2007. Six of the seven school division superintendents granted permission to conduct the study with principals and teachers who were members of the 2003 CSR cohort of participating schools. The contact dates for school division superintendents as well as the dates of superintendents' or designees' permission responses are illustrated in Table 11.

Table 11

Communications with Superintendents

School Division	Attempts to Gain Permission	Permission Granted
1-A	January 8, 2007	January 16, 2007
2-B	January 8, 2007	January 17, 2007
3-C	January 8, 2007	January 23, 2007 denied
4-D	January 8, 26, 2007 February 2, 2007	February 8, 2007
5-E	January 8, 26, 2007 February 2, 2007	February 15, 2007
6-F	January 8, 26, 2007 February 2, 2007 March 1, 2007 March 5, 2007	March 16, 2007
7-G	January 8, 26, 2007 February 2, 2007 March 1, 2007 March 5, 2007	March 26, 2007

Focus Group Participation

On January 8, 2007, the researcher contacted the Director of Comprehensive School Reform for the Commonwealth of Virginia. The researcher requested permission to meet with members of the technical assistance providers (TAPs) during a scheduled meeting the director had arranged with them on February 27, 2007, in Richmond. At the request of the director of CSR, the researcher emailed the IRB approval letter (Appendix K), overview of the study, letter of invitation to participate (Appendix B), and the focus group questions (Appendix C). Four of the six TAPs agreed to participate in the focus group and completed the response to the invitation to attend.

Focus Group Process

On February 27, 2007, the researcher met with four of the possible six members of the group of technical assistance providers. The Director of Comprehensive School Reform for the Commonwealth of Virginia scheduled a 2-day Comprehensive School Reform (CSR) Spring Institute at the Sheraton Park South Hotel in Richmond, Virginia. The 1st meeting day included only members of the technical assistance providers. Two of the six TAPs were unable to attend this 1st-day meeting with the director. During the planning stages of the CSR Institute, the director granted the researcher 90 minutes to conduct a focus group interview with the technical assistance providers during the 2-day institute.

The researcher began the interview with introductions and reviewed the purpose of the study during the reading of the interview protocol (Appendix L). The focus group interview began at 1:00 p.m. and ended at approximately 2:27 p.m. The interview was audio recorded, transcribed, and coded.

Principal Interview Procedures

The original cohort of seven school divisions included fourteen school principals. To avoid the possibility of personal bias, the researcher removed her school from the study. Flooding conditions caused another school to close during the second year of the CSR process. The principal had relocated; students and staff were consolidated with another school. Therefore, this school was eliminated from the study. The superintendent of School Division 3 (see Table 11) declined to participate; therefore, the school principal was removed from the study.

The superintendent's designee for School Division 6 would not permit the researcher to contact the five principals whose schools participated in the 2003 CSR cohort. The superintendent's designee communicated the research topic information to the principals, and the researcher was instructed not to mail letters of invitation to the principals. The researcher received an email from the superintendent's designee that communicated the interest of two principals who agreed to participate. Two phone calls generated a response from one of the principals, and a date was scheduled for the interview. The researcher made three follow-up phone calls to the second principal from this division and did not receive a response. In summary, four of the five principals from School Division 6 declined to participate.

At this point, seven school administrators of a possible twelve were confirmed to participate in the principal interviews. On February 11, 2007, the researcher mailed letters to three principals from the first, second, and fourth school divisions that granted approval to conduct this study. The superintendent from the third school division had declined to participate. This packet included a letter to the principal, an invitation to

participate, as well as a letter and invitation to participate for a third- or fifth-grade teacher of mathematics. The principals were asked to distribute these letters, invitations to participate, and teacher surveys to selected third- and fifth-grade teachers of mathematics. Letters of invitation to the selected teachers and the teacher surveys are illustrated in Appendices F and G, respectively.

From February 15 through February 23, 2007, the researcher followed up with telephone calls to the five principals and requested dates and times to schedule and conduct interviews. During these conversations, the researcher asked the principals to follow up with the return of the teacher surveys. On February 19, 2007, the researcher mailed letters to the next two principals from the fourth and fifth school divisions.

On March 20, 2007, the researcher interviewed the principal from the sixth school division. The superintendent from School Division 7 mistakenly sent the principal interview questions to the participating principal. The researcher received an email from this principal stating that he was placing his responses in the mail; the researcher received written responses from the principal of School Division 7 on March 26, 2007. Prior to conducting the interviews, the researcher read the interview protocol script (Appendix L). The principal interviews were audio taped, coded, and transcribed. A report of the number of principals by school division and the interview dates are noted in Table 12.

Table 12

Principal Interview Dates

School Division	Number of Principals	Interview
1-A	1	February 20, 2007 (telephone)
2-B	1	March 2, 2007 (in person)
3-C	Declined participation	Declined participation
4-D	1	March 13, 2007 (telephone)
5-E	2	March 8 and 9, 2007 (telephone)
6-F	1	March 20, 2007 (telephone)
7-G	1	March 26, 2007 (mail)

Teacher Survey Process

The teacher letters of invitation and teacher surveys were initially mailed with the principals' letters as the researcher received permission from the division superintendents to participate. From March 1 through March 26, 2007, the researcher received 13 of 14 postal teacher surveys; on March 3, 2007, the first teacher survey was received. On March 6, 2007, the researcher mailed a second letter of invitation that included two teacher letters, invitations to participate, two surveys, two self-addressed stamped envelopes, and a half-sheet flyer offering a chance to win a \$25 gift certificate if the recipient returned a survey by March 13, 2007. Seven teacher surveys were returned in the self-addressed stamped envelopes by March 13, 2007. On March 16, 2007, the researcher drew a name from the invitation-to-participate forms and mailed the gift certificate to the selected participant.

On March 20, 2007, the researcher mailed a third letter to the principals of schools whose third- and fifth-grade teachers had not yet responded. From March 21 through March 26, 2007, the researcher received four additional teacher surveys. A total of 13 surveys were received of the 14 requested, representing a return rate of 93%. The teacher survey response by school division, number of teachers, grade level, and date received are illustrated in Table 13.

Participant Information

Four technical assistance providers, seven principals, and thirteen teachers participated in the study ($n = 24$). Information was retrieved through the focus group session, principal interviews, and teacher surveys.

Focus Group Participants

The technical assistance providers who participated in the focus group had served two to four schools during the 2003 CSR process. Three of the TAPs had earned doctorates, each had previously taught on the elementary school level, and all four had served as school administrators. No technical assistance provider had served as a division superintendent. Three of the four technical assistance providers served in one of their two schools all three years of the CSR process. One technical assistance provider served only one year in his or her assigned school because the school closed due to flooding; students and staff were consolidated with another school, and the technical assistance provider was reassigned. Background information for technical assistance providers and school status information are reported in Table 14.

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Table 13

Teacher Survey Response Rate and Dates

School Division	Number of Teachers	Grade Levels	Survey Received
1-A	2	3rd, 5th	March 1, 15
2-B	2	3rd, 5th	March 23, 24
3-C	Declined participation	Declined participation	
4-D	2	3rd, 5th	March 10
5-E	4	3rd, 5th	March 9, 14, 26
6-F	1	3rd	March 22
7-G	2	3rd, 5th	March 16, 25

Table 14

Focus Group Background Information and Status of Schools

Question	TAP 1	TAP 2	TAP 3	TAP 4
1. Highest Degree?	Master's degree	Doctorate	Doctorate	Doctorate
2. Years taught?	6-10 years	1-5 years	6-10 years	6-10 years
3. Years as a school administrator?	30 years	26 years	14 years	17 years
4. Years as a superintendent?	0 years	0 years	0 years	0 years
5. Schools fully accredited?				
School 1	Yes	No	No	Yes
School 2	Yes	No	Yes	Yes
6. Schools make AYP?				
School 1	Yes	No	No	Yes
School 2	Yes	No	Yes	Yes
7. Years as CSR principal?				
School 1	3 years	2 years	3 years	3 years
School 2	3 years	1year	1year	3 years

Principal Participants

Seven principals, representing six of the seven school divisions in the 2003 CSR cohort, granted permission to participate in the study. Principals responded to nine questions related to their educational background and the accreditation status of the schools they served, as illustrated in Appendix D. Six of the seven principals served as their school's administrator during all three years of the CSR process; six of the seven principals had between six and seven years experience as an administrator. All principals had teaching experience prior to serving in the role of administrator.

Teacher Participants

Thirteen of fourteen teachers represented six of the seven school divisions and seven of the seven schools that participated in the 2003 CSR cohort. Seven of the participants taught third grade, and six taught fifth grade. Eight teachers held bachelor's degrees, and five had earned master's degrees. The teacher participants represented nine urban and four rural school divisions. Five teachers had taught one to five years, three had taught 11 to 15 years, and five had taught more than 15 years.

Analysis of the demographic data collected regarding the three groups of participants indicated that the participants reflected a variety of experiences and backgrounds and that they had been sufficiently associated with CSR implementation to be able to provide meaningful responses to the interview and survey questions.

Findings

Technical Assistance Providers Focus Group

The focus group consisted of four technical assistance providers who served as facilitators in schools participating in Comprehensive School Reform (CSR). The results

of each question are reported in a narrative format. Raw data from each question are available upon request.

1. How do you describe the role of the technical assistance provider?

All four participants noted the role of the technical assistance provider as one who served as a coach, resource, and mentor. Participant FGA stated, “We are working as a coach but we’re providing information, mostly in the 11 areas of CSR, and then keeping them [school staff] on track. We’re kind of their personal ‘day-timer,’ reminding them of things that need to happen.” Participant FGD said, “The other thing, I think, is that one of our roles was to provide an objective outside perspective.” Additional comments included the following: “I brought background knowledge to them and served as a coach and a mentor” (FGB); “At times you served as a resource to help identify professional development that might be helpful or beneficial” (FGD); and “But I think the biggest help is helping them [school staff] to work together and seeing themselves as the solution” (FGC).

2. How often was professional development provided for teachers during the 1st year of CSR implementation?

Three of the four participants agreed that professional development occurred on a monthly basis. Participant FGA stated, “I was an add on. I wasn’t at the school the first year.” Nevertheless, all four participants agreed that professional development was provided in various formats, which included formal or external and informal, site-based settings. Some of the professional development included Summer Institutes, formal presentations, and team planning and coaching. Participant FGB stated, “I would say on a monthly basis. You worked with grade levels—you may work with two grade levels at

a time. So we really concentrated that 1st year on professional development.” Participant FGC said,

Professional development comes about because you’re working together to resolve a particular situation or to share skills and implement them....I think there are two different types of professional development going on. I think there is one that dealt with the achievement of students as they looked at data....But the other type went on continuously working together as a professional team.

Participant FGD concurred: “I like the distinctions as to what constitutes professional development. We know the real impact of professional development is what happens in the classrooms.”

3. To what do you attribute enhanced student achievement in mathematics during the implementation of Comprehensive School Reform?

All four participants agreed that the process of CSR provided schools with a focus to enhance student achievement in all academic areas. The focus included four target areas: curriculum alignment, data analysis, use of time, and professional development.

Participant FGA stated, “I think most of us that were involved in CSR looked at the bigger structure and got together and identified a new path, a new way to look at student achievement, and they started seeing results in all of the academic areas.” Participant FGB said,

I look back on the four target areas we have [in CSR]: the curriculum alignment, the data, use of time, and professional development. When we developed the Gap Analysis, you really got the teachers involved with doing the Gap Analysis to start focusing on here’s where we really need to work, and this is what we could do

and then we get to solve problems. So I think the Gap Analysis is where I started seeing the biggest change in student achievement using those four areas.

4. How often did you visit your assigned school during the 1st year of CSR implementation?

Two of the four participants met with their assigned schools at least once a week. Their official responsibility was to meet with school staff at least 40 days per year. Participant FGC stated, “At the beginning, it [time] varies; it’s all over the place. I might be there five days for three weeks in a row and then not there for three weeks.” Participant FGA said, “I’d go in once a month but stay for three days. I had a school that was a 3-and-½-hour drive.” Thus, the participants’ frequency of visits was sometimes based on a school’s location.

5. Describe one of your visits with the staff—purpose, activity, discussion, etc.

All four participants noted various types of visits that included professional development offerings on instructional strategies and data analysis. Additional purposes included their attendance at leadership team meetings, participation in classroom walkthrough visits, and asking questions to involve staff with problem solving to reach solutions. Participant FGA stated, “Because of my background, I have usually been asked to do things in differentiated instruction and other times I’d attend team meetings and just listen. I’d then meet with the principal, making some recommendations of things she might want to consider, things to reinforce with the staff.” Participant FGB remarked, “I had a video of a teacher with a live group of kids and we did a session with test-taking strategies, and I think that was one of the best things that I did when I saw the teachers take back to the classroom [and implement what they learned]. Participant FGD

said, “When we started the walkthroughs, we were asked to give feedback [holistically] of what we observed during a 10-minute classroom visit. I think as TAPs, our role was supportive and professional and weren’t the principals.”

6. What types of professional development offerings were provided during the CSR process?

All four participants noted that professional development was described as external and site based. The external professional development included each school’s participation at the Summer Institutes and two leadership team meetings during the school year with the TAPs and CSR coordinators and director. During these training sessions, school leadership teams learned the process and purpose of walkthroughs, discussed how to facilitate book talks, and focused on data analysis of benchmark and SOL results. Participant FGD stated, “Each school analyzed their achievement data utilizing the Student Performance-by-Question information to assist with focusing instruction.” School leadership teams also learned the process of data analysis and taught it to their teams of teachers. Participant FGD continued, “People did walkthroughs as a team to observe use of time, instructional strategies, and student engagement. It was interesting to debrief afterwards with each team to report what was observed.” The participants agreed the results of professional development training regarding instructional strategies, use of time, and data analysis were instrumental in focusing instruction.

7. What research-based strategies facilitated by the technical assistance provider impacted student achievement in mathematics?

All four participants noted that the implementation of “Instructional Strategies That Work” (Marzano, 2004) provided a foundation for impacting student achievement not only in mathematics but also the other core subjects. Participant FGB stated, “We did a book study, Marzano’s book, to learn research-based strategies that impact student achievement.” Participant FGD said, “The Marzano things [strategies] I thought were with a clear focus. We’d include this in our walkthroughs and then get together and you would say, okay, what are some of the things we saw that were going well? Participant FGC stated, “Teachers felt they received professional development and things were implemented too quickly without adequate training, and that’s our real focus—to provide adequate training.”

8. How often did you monitor instructional practices? What were some of your “look fors” during mathematics instruction?

All four participants agreed the purpose of the walkthrough was to provide feedback to classroom teachers. The feedback might relate to the implementation of instructional strategies, quality questioning techniques, lesson plans, and student engagement. The walkthrough was not designed to report strengths and weaknesses but to report what was observed during the time of the visits. Participant FGD stated, “There were typically four or five things to look at so it was easier to collect data, be focused, and provide feedback.” The observers took the information, summarized it, and presented it to the teachers. Participant FGC remarked, “The key was that it [the walkthrough] was nonjudgmental and was used simply to report what was seen during a 10-minute time frame.” This participant continued by commenting, “Take questioning, how many, what knowledge level, how many at this level did you hear while you were in

there? If you didn't hear any, that's fine, just don't put what was not observed."

Participant FGB stated, "The process was very effective when teachers would say, okay, I want you to give me a week and then I want you to come in my classroom and look for a specific strategy. They would choose what area they wanted me to come in and monitor."

The participants agreed that the walkthrough served as a tool to provide feedback to classroom teachers regarding the implementation of instructional strategies, quality questioning techniques, lesson plans, and student engagement.

9. How has the process of CSR impacted student achievement in mathematics?

All four participants agreed this was a challenging question to answer because the cause-and-effect relationship is difficult to prove. Nevertheless they agreed the CSR process provided schools with a blueprint of instructional strategies and data analysis to enhance teaching and impact student achievement.

Participant FGD stated, "It's going to be the hardest one to answer and the hardest one to prove because the cause-and-effect is the most difficult thing to prove."

Participant FGA said, "The CSR process narrowed the focus of our schools to really look at what teachers are doing instructionally. It provided instructional support and a focus for analyzing data." Participant FGB was involved in one of the original schools to implement CSR in 1998. This participant stated, "I think CSR provided schools with a process, with strategies. It's helping them get a focus. It taught them [schools] how to do a school improvement plan, how to evaluate the plan, and taught them data analysis."

This participant also stated that the technical assistance provider's role in the CSR

process “helped them to monitor, to coach, to keep them focused, and I think that has made a difference in student achievement.”

Principal Interviews

The principal interviews included seven principals, who represented six of the seven school divisions in the 2003 CSR cohort. Two participating administrators were from the same school division. The results of each question are reported in a narrative format. Raw data from each question are available upon request.

1. What types of professional development offerings were provided during the CSR process?

All seven principals noted that professional development focused on enhancing instruction and provided teachers with a specific focus to improve academic success for students. One particular professional development strategy that was shared with all CSR schools at one of the Summer Institutes was Marzano’s *Classroom Instruction That Works* (Marzano, 2005); another workshop explained testing formats. Participant PB stated, “We had numerous professional development sessions on Marzano’s instructional strategies, specific strategies in math and language arts.” Another principal, participant PC reported, “Our staff learned how to format questions in the SOL assessments, how to write good questions and ask higher level thinking questions.” Participant PD said, “Professional development gave us all sorts of ideas and we really loved Marzano so we’ve been following a lot of his work. We’ve tried to tie in with the research-based strategies that they [facilitators of professional development] talked to us about.”

Five of the seven participants stated their schools completed book studies with Marzano’s *Classroom Instruction That Works* (Marzano, 2005). Each grade-level team

presented a skit or PowerPoint presentation highlighting the instructional strategy presented in their assigned chapter. Participant PC stated, “We were able to do book talks with the Marzano book and focused on a specific strategy.”

2. How has the technical assistance provider helped your school during the implementation of Comprehensive School Reform?

All seven principals indicated that the technical assistance provider served as a coach, mentor, resource, and facilitator of site-based professional development that focused on data analysis or assisted school teams during the CSR institutes.

Six of seven participants noted that the technical assistance provider provided specific strategies for data analysis in reference to quarterly benchmark assessments. Participant PA stated, “The technical assistance provider assisted with applying data to instruction.” Participant PB stated, “The TAP was good in that they [sic] were another pair of eyes looking at what was going on in the building, getting a different perspective for what was going on and providing constructive feedback.”

Six of the seven principals noted that the technical assistance provider assisted school teams with data analysis and observed team meetings, classroom instruction via walkthroughs, and the administrative team of principals and assistant principals. Participant PE stated, “The TAP [technical assistance provider] did a lot of observing with our data teams, giving us feedback, observing teachers, observing myself and the AP as leaders and really gave us specific feedback on our own leadership things that were happening, which I found probably most valuable.” Participant PF said, “The TAP provided guidance and assistance and gave advice on implementing the program [CSR process].”

3. What research-based strategies facilitated by the technical assistance provider to administrators and school leadership team impacted student achievement in mathematics?

Six of the seven reported that the Marzano strategies impacted student achievement. Participant PB stated, “The Marzano strategies provided teachers with instructional support.” Participant PC said, “Marzano strategies were infiltrated into the classrooms and provided detailed strategies to support instruction.” Participant PD commented, “Marzano gave us specific strategies that gave us good strong teaching strategies.”

All seven principals agreed that the data analysis strategy assisted teachers with their focus on classroom instruction for all subject areas. The researcher asked participants to respond specifically regarding strategies that enhanced achievement in mathematics. Participant PF stated, “We used many, many manipulatives, particularly for math, and our student group work increased.”

4. How has the process of CSR impacted student achievement in mathematics?

Six of seven participants stated that the CSR process provided enhanced professional development, as well as data analysis and benchmark assessments to provide a focus for data analysis to improve students’ achievement in mathematics. Participant PB commented, “As a result of all of the professional development, I think this helped to bring the overall success of the kids. We were very pleased with the success.” Participant PE stated, “The staff development that we would go to on a regular basis for CSR provided ideas we were able to bring back and implement.” Participant PG acknowledged, “Data analysis and data-driven instruction allowed for better targeted need based on instructional practices.” Participant PC stated, “Quarterly benchmark

assessments gave teachers additional information on how they needed to focus their instruction.”

Five of seven participants cited the implementation of common team planning time to provide teachers with time during school to discuss data and plan collaboratively to enhance student achievement. Participant PA stated, “We have team planning every Tuesday and Wednesday to discuss current data and plan for instruction.”

5. How often do you monitor instructional practices?

All seven participants discussed daily monitoring instructional practices.

Participant PE responded,

Daily. The assistant [principal] and I are in classrooms daily. We’re in an environment where the kids need to see us daily, the teachers need to see us daily, and we do it in a variety of ways from formal observations to grade-level sweeps [walkthroughs]. We do a quick observation in the room for 10 minutes and then leave a copy for the teacher. So, we’re in classrooms every day.”

Participant PC stated,

I have a bazillion ways to do observations. I’m in the classrooms nearly every day and instruct on the television in the morning, and students have challenges they have to meet. I can monitor teacher follow through by the number of kids who are giving the correct answers. The other thing I do, obviously, is going into classrooms just to do spot checks [walkthroughs] that we have in the process of CSR.

6. What are some of your look fors during mathematics instruction?

All seven participants looked for student engagement during math instruction as well as the use of manipulatives to enhance instruction and learning. Participant PD stated, “We’re going in [classrooms] to see a variety of things: manipulatives, direct instruction and group work. There’s a variety of things that I look for but the best thing is to see that everyone is on the same track and is on the same page.” Participant PB commented, “If the children are engaged is an important part of teaching. It’s important not only for them [students] to hear and see but to participate and do. So, I look for activities, different kinds of activities.”

Four of seven principals confirmed that teachers are using the pacing guides and implementing the skills provided in the curriculum framework. They ensure that everything being taught is skill focused. Participant PA stated, “I make sure they’re following the pacing [guide] and using the curriculum framework and that everything that they teach is curriculum-framework driven.” Additionally, they looked for students’ use of correct mathematics vocabulary and real-life application of certain mathematics skills. Participant FG stated, “I look for the use of manipulatives, correct mathematics vocabulary and students working in small groups.” Participant PE concurred by stating,

I look for manipulatives being used, see how groups are happening and matching what we see as a data concern with what we see happening in the classroom. Are kids using math vocabulary? Is there more kid talk than teacher talk? Is there evidence manipulatives are used if you don’t see them used during a particular observation? Those are pretty much the big things.

7. How often was professional development provided for teachers during the 1st year of CSR implementation?

Six of seven participants reported that professional development was ongoing: weekly during team meetings, monthly with all staff, and during the CSR institutes with members of the school leadership team. Participant PB stated, “We did something weekly, and very often it was twice weekly, depending on our needs. We had to train our teachers to become trainers so that we could sustain the momentum we had.”

8. In what ways did the technical assistance provider support the implementation of professional development?

Six of seven participants reported that the technical assistance provider served as a resource and facilitator of professional development based on the needs of his or her particular school and helped them (the school staff) plan based on data-driven needs.

Participant PD stated, “At the beginning with the professional development, she [TAP] was working more with me on what the school needed, how we could go about it using different resources to implement effective mathematics instruction and making sure we had the materials.” Participant PE stated, “She [TAP] actually gave us a few different ideas and ways of looking at the data, really looking at the data and using the different reports to focus instruction.” Participant PB said,

They also made sure we did follow ups; that it wasn’t dead, wasn’t just a workshop that we’d forget about, but reflecting and connecting one professional development activity to another professional development activity. We did a professional development tree. We did our tree to be our graphic organizer to show where we were, this is what we’ve done in branches, and you could see how it all connected into improving instruction for the kids.

9. What are the total numbers of minutes your students spend daily in mathematics instruction?

All seven participants stated their students received between 60 and 130 minutes of mathematics instruction each day. Three participants reported 60 minutes a day; two participants reported 90 minutes a day; one reported between 40 and 70 minutes a day, and one reported about 120 to 130 minutes a day. The wide variety of time allotments was not explained by the respondents.

10. Did student achievement in mathematics improve during the implementation of CSR?

Six of seven participants reported that they noted improvement of students' achievement in mathematics during the implementation of CSR.

11. If yes, what are some of the contributing factors?

All seven participants reported that data analysis, remediation, and walkthrough visits were contributing factors. Participant PC stated, "We had data to show where scores were increasing and where we needed additional focus after each benchmark assessment." Participant PA said, "We did intervention and remediation so they would get math, math, math." Participant PB commented, "I think the walkthrough visits and conversations between teachers [are] critical. They work together and are teamed at their grade level so they really pull together to try to get the best for the kids."

12. In what way has CSR impacted mathematics instruction?

Five of the seven participants indicated that professional development, data analysis, and the use of CSR funds to purchase additional mathematics manipulatives impacted instruction. Participant PE responded, "I think that the staff development that we would go to on a regular basis for CSR..." Participant PG reported that "data analysis

and incorporation of all levels and modalities of instruction” impacted mathematics instruction. Participant PB stated, “We were just like a well running machine, pulling all kinds of resources, all kinds of games, all kinds of activities to make it more interesting for the kids.”

13. How valuable was the contribution of the technical assistance provider? Describe a typical visit with your staff—purpose, activity, discussion, etc.

All seven participants agreed that the technical assistance provider made valuable contributions as a coach and facilitator during the implementation of CSR. During a typical visit, the technical assistance provider participated in classroom walkthrough visits, met with grade-level teams to focus on data, and provided support with the implementation of instructional strategies. The technical assistance provider also provided feedback to the leadership team and the staff regarding data meetings and CSR goals. Participant PB stated, “She was a go getter! She provided resources and was on this roller coaster. She was just moving and we got a lot of valuable information from her.” Participant PF said, “He played a real valuable part, especially when we first implemented CSR. He really helped guide us and encouraged us to stay the course, gave us advice and met with our leadership team.” Participant PD commented, “R was very valuable. We would do walkthroughs and I would give her updates about data.” Participant PE stated,

Typically, she sat in either our data team meetings or our half-day planning sessions and provided feedback. She would meet with teachers or the leadership team to say, “This went really good”; “This might be a way that you want to

approach it next time”; “Here’s a way you can help teachers look at it that might be more beneficial.” So that was always a part of her visit.

Participant PG concurred by stating, “Our TAP would meet with the leadership team to discuss implementation and concerns. He would conduct walkabouts and observations of instructional practices and share concerns and positives with the leadership team.”

Teacher Survey

The teacher survey was completed by 13 of the 14 teachers who participated in the 2003 CSR cohort. Seven of the participants taught third grade, and six taught fifth grade. Survey results are conveyed in Tables 15 - 30.

Table 15

Item 1: The Implementation of the professional development component of CSR enabled me to more effectively utilize the time allocated for mathematical instruction.

Response	Frequency	Percent
Not sure	3	23.1
Strongly disagree	2	15.4
Agree	7	53.8
Strongly agree	1	7.7
Total	13	100

A majority (8 of the 13) of the teachers agreed that professional development training provided them with effective strategies to implement during the allocated time for mathematics instruction.

Table 16

Item 2: During the implementation of CSR, professional development provided strategies to enhance instruction.

Response	Frequency	Percent
Not sure	0	0
Strongly disagree	1	7.7
Agree	11	84.6
Strongly agree	1	7.7
Total	13	100

Virtually all (12 of 13) of the teachers agreed that professional development provided effective strategies that enhanced instruction.

Table 17

Item 3: What type of professional development most impacted instruction in the classroom?

Response	Frequency	Percent
Graduate level course	0	0
Ongoing school-based learning teams	6	46.2
Data on student learning	7	53.8
No training impacted instruction	0	0
Total	13	100

Teachers’ responses were almost evenly divided regarding the type of professional development with the greatest impact on instruction. More than half (7) of the teachers indicated that data related to student learning most impacted instruction. The other six

teachers deemed ongoing school-based learning teams as exerting the most impact on instruction.

Table 18

Item 4: What type of professional development most impacted your instructional delivery?

Response	Frequency	Percent
Site based	5	38.5
Conferences	0	0
Mentoring	0	0
Analyzing data	8	61.5
Total	13	100

Eight of the teachers indicated that professional development regarding data analysis most impacted instruction in their classrooms. The other five considered site-based activities to have the greatest impact.

Four teachers responded that the technical assistance provider visited their school once every other week or twice a month; the same number indicated that they did not know how often the TAP visited. Three of the respondents reported that the TAP visited once or twice a week. These responses revealed that the visibility of technical assistance providers varied from school to school; they also indicated a gap in the teachers' perceptions of the impact of the technical assistance providers in their respective schools.

Table 19

Item 5: How often did the technical assistance provider visit your school during the first year of CSR implementation?

Response	Frequency	Percent
0 times a week	1	7.7
Once or twice a week	3	23.1
Once every other week or twice per month	4	30.8
Once a month	1	7.7
I don't know	4	30.8
Total	13	100

Table 20

Item 6: In what way did the technical assistance provider most support the implementation of professional development?

Response	Frequency	Percent
Facilitated professional development activities	2	15.4
Monitored implementation of strategies via walkthroughs	4	30.8
Coached the leadership team	3	23.1
I don't know	4	30.8
Total	13	100

Of the 13 teachers, four responded that the technical assistance provider most supported the implementation of professional development when they monitored strategies via

walkthroughs; however, the same number indicated that they did not know, thereby displaying a lack of understanding of how the technical assistance provider supported professional development in their respective schools.

Table 21

Item 7: Has the technical assistance provider impacted professional development during CSR?

Response	Frequency	Percent
Yes	12	92.3
No	1	7.7
Total	13	100

Virtually all (12 of 13) of the teachers responded positively regarding the technical assistance provider’s having an impact on the professional development component of CSR.

Table 22

Item 8: Based on the SOL pass rate during the implementation of CSR, did the mathematics achievement of third- and fifth-grade students increase?

Response	Frequency	Percent
Yes	9	69.2
No	1	7.7
I don't know	3	23.1
Total	13	100

A majority (9) of the teachers responded that the mathematics SOL pass rate of third- and fifth-grade students had increased during the implementation of CSR. Only one teacher responded negatively, whereas the other three did not know the answer.

Table 23

Item 9: Did the implementation of the professional development component of CSR contribute to the implementation of effective instruction in your classroom?

Response	Frequency	Percent
Yes	13	100
No	0	0
Total	13	100

All of the teachers agreed that the professional development component of CSR contributed to the implementation of effective instruction in their classrooms. This overwhelming response correlates with findings cited in another study (Baker et al., 2004) that focused on teachers' implementation of effective instructional strategies.

Table 24

Item 10: Did the implementation of the professional development component of CSR contribute to the implementation of effective instruction in your colleagues' classrooms?

Response	Frequency	Percent
Yes	13	100
No	0	0
Total	13	100

All of the teachers agreed that the professional development component of CSR contributed to the implementation of effective instruction in their colleagues’ classrooms, as well. This finding provides strong support for the component of CSR that includes professional development and mandates team planning in the process of improving student achievement.

Table 25

Item 11: What factor most contributed to increased student achievement during CSR?

Response	Frequency	Percent
Professional development to support instruction	3	23.1
Use of time and school scheduling practices	0	0
Use of data in making instructional and planning decisions	10	76.9
Total	13	100

Most (10 of 13) of the teachers believed that the use of data in making instructional and planning decisions was the factor that most contributed to increased student achievement during CSR. The remaining three selected a similar response: professional development to support instruction. These responses indicated that data analysis proved to exert more of an impact than did the standard professional development offerings; however, the researcher noted during principal and focus group interviews that data analysis was often documented as professional development for teachers and administrators during the CSR process.

Table 26

Item 12: In what way have you most implemented the professional development component of the CSR process?

Response	Frequency	Percent
Fostered collaboration among teachers	4	30.8
Provided teachers with a plan to collect and analyze data	8	61.5
Assisted teachers with identifying resources and appropriate interventions	1	7.7
Total	13	100

Eight of the teachers indicated greatest use of the CSR component related to creating a plan to collect and analyze data. Four teachers indicated the component related to collaboration with other teachers.

Table 27

Item 13: In what ways have the professional development activities most impacted instruction?

Response	Frequency	Percent
School Leadership Teams completed and analyzed a gap analysis	1	7.7
Teacher, administrators, TAPs completed walkthroughs to observe implementation of strategies and provide feedback	2	15.4
Additional resources were provided (manipulatives, materials) for students to use during the instruction/learning process	10	76.9
Total	13	100

Ten of the teachers believed that the additional resources provided for students most impacted instruction and the learning process.

Table 28

Item 14: Which of the following resources have most influenced teachers' instructional practices?

Response	Frequency	Percent
Shared planning time for each grade level	7	53.8
Implemented quarterly benchmark assessments	5	38.5
Provided enhanced professional development	1	7.7
Total	13	100

More than half (7) of the teachers considered shared planning time for each grade level to be the resource most impacting instructional practices; however, five of the respondents cited quarterly benchmark assessments as having the most influence on instructional practices. The researcher noted that grade-level shared planning provided time for teachers to discuss best practice strategies and to support each other with the implementation of effective strategies.

Table 29

Item 15: How has the professional development component of CSR most impacted instruction?

Response	Frequency	Percent
Provided a shared planning time for each grade level	4	30.8
Implemented quarterly benchmark assessments	7	53.8
Provided enhanced professional development	2	15.4
Total	13	100

More than half (7) of the teachers considered the quarterly benchmark assessments to have the most impact on instruction. Four, however, thought shared planning had the most impact on instruction, whereas two teachers indicated that the provision of enhanced professional development was responsible for the greatest impact.

Table 30

Item 16: How has the professional development component of CSR most impacted student achievement?

Response	Frequency	Percent
Provides a shared planning time for each grade level	2	15.4
Implemented quarterly benchmark assessments	9	69.2
Provided enhanced professional development	2	15.4
Total	13	100

More than two thirds (9) of the teachers thought the quarterly benchmark assessments had exerted the greatest impact on student achievement. This response indicated that teachers utilized benchmark assessments to focus instructional practices and, ultimately, to enhance student achievement.

Synthesis of Focus Group, Interview, and Survey Data

Although repeated attempts were made to secure a larger sample of participants, the final study sample consisted of four technical assistance providers, seven principals, and thirteen teachers. The focus group interview, principal interviews, and teacher survey results were scored using the Constant Comparative Method (Hewitt-Taylor, 2001). The focus group conducted with technical assistance providers, the principal interviews, and the teacher surveys provided qualitative data for the research.

Triangulation of these data was used to illustrate how themes emerged from the three data sources to support or not support the overarching research question.

Focus Group Responses

Research Question 1. Is the CSR process effective in improving the achievement in mathematics of third and fifth grade students? The technical assistants' responses to Questions 3 and 8 during the focus group addressed this question; the responses are summarized as follows. The focus group participants agreed that Comprehensive School Reform served to focus the school staff on student achievement with regard to curriculum alignment, data analysis, common planning time, and professional development. FA remarked, "I think the schools had a narrower focus on remediation based on data. Professional development they received either in our institutes or by having people come in or by the written materials that we've provided them increased whatever area needed focus". The focus group also agreed that the Gap Analysis professional development directed schools to determine where they needed to focus instruction and remediation. FA stated, "The Gap Analysis is where I started seeing the biggest change in student achievement..."

Professional development also presented CSR schools with research-based strategies, which provided specific instructional tools designed to engage students in the learning process. Some of the strategies implemented by the 2003 CSR cohort schools implemented were based on information included in the book *Classroom Instruction That Works* (Marzano, 2001). This professional development resource provided specific strategies to enhance instructional practices: identifying similarities and differences, summarizing and note taking, employing nonlinguistic representation techniques, and

using advance organizers. Researchers Sanders and Horn (1994) wrote, “The individual classroom teacher has even more of an effect on student achievement than originally thought. Improving the effectiveness of teachers has more of an impact than any other factor” (p. 14).

Members of the focus group often completed walkthrough visits to observe the practice and implementation of specific instructional strategies and provided nonjudgmental feedback. FB explained,

I think the key to this monitoring is then to take the information and summarize it; provide feedback to the teachers. Okay, here’s the data. You might be doing it but we just didn’t happen to see it when we were in there. So that kind of feedback, I thought, was helpful, particularly; it was an encouraging kind of thing. Use of hands-on materials in mathematics was another one.

Walkthroughs also revealed questioning techniques used by teachers during instruction. FC remarked,

Take questioning, how many, what knowledge level, how many at this level did you hear while you were in there?...It was kind of revealing when out of 6,000 questions that were asked, 5,000 of them were knowledge and comprehension level. I noticed a big change in the kind of questions.

This information was summarized and presented to the staff as a picture of observed instructional practices.

Research Question 2A. Has the technical assistance provider impacted the professional development component of CSR? The technical assistants’ responses to Questions 1, 4, and 8 during the focus group addressed this question; the responses are

summarized as follows. The focus group participants defined the TAP's impact as that of a coach during the implementation of CSR, and, in some cases, they served as mentors and resources to address the specific needs of individual schools. FG elaborated,

There are other schools that, although they have teacher efficacy and principal efficacy, they may not have the finer points, getting from point A to point B. In that respect, we are again working as a coach but we're providing information in the 11 areas of CSR, and then keeping them on track.... We're kind of their personal day-timer, reminding them of things that need to happen sooner or later.

An additional statement summarized the role of the technical assistance provider as a facilitator of professional development strategies:

In addition, part of our role was to work with schools to help them implement the training that was being done by CSR. All schools were told to focus on those four areas that were actually part of the academic reviews, part of the summer training that we [all schools] had as well as training during the year. (FG)

Research Question 2B. Has professional development impacted instruction in the classroom? The technical assistants' responses to Questions 2, 7, and 9 during the focus group addressed this question; the responses are summarized as follows. The focus group participants agreed there were two kinds of professional development. One type was the formal presentation provided to the CSR schools during the spring, fall, and summer institute sessions attended by the school leadership teams. The second type of professional development was site based, which occurred weekly during the 1st year of CSR implementation.

One participant (FG) stated, “I think that [professional development] went on weekly and maybe even more often because lots of times you would hear that kind of thing happening in informal settings....I think professional development varied but it was continuous.

The technical assistance provider continued,

We know that the real impact of professional development is what happens in the classroom and probably what all schools need to do more of is coaching in the classroom....The Marzano things [strategies] I thought were with a clear focus.

(FG)

The CSR process provided a framework for school improvement. FC stated, “I think that the improvement is that we provided schools with the process and with strategies.” The focus group agreed that effectively implemented research-based strategies impacted instruction in the classroom.

Research Question 2C. In what way has the professional development component of CSR impacted the instruction of mathematics of third and fifth grade students attending the 2003 CSR cohort of schools in Virginia? The technical assistance providers’ responses to this question are summarized as follows. Professional development provided a focus on data analysis, teacher leadership, and differentiating instruction.

One technical assistance provider stated, “There was a lot on data analysis and differentiating instruction.” (FG). That participant further explained that the professional development offered during the CSR Institutes was designed to enhance teacher leadership and school climate: “They were trained on walkthroughs, leadership, climate,

and culture.” The participant continued, “Much professional development comes from sharing with each other collaboratively. I really think that gets more power than all the other presentations you have” (FG). Participants in the focus group agreed that the key professional development components offered during the CSR process, which impacted student achievement in mathematics, were data analysis, teacher leadership, differentiating instruction, and collaboration with others. Therefore, the CSR process provided training for teachers in data analysis, developed teacher leaders to become facilitators during team and staff meetings, and provided a foundation of various instructional strategies and promoted differentiated instruction to enhance student achievement.

Principal Interview Summary

Research Question 1. Is the CSR process effective in improving the achievement in mathematics of selected third and fifth grade students in Virginia? The six principals’ responses to Interview Questions 4, 8, and 9 addressed this question; the responses are summarized as follows. Four of the six principals asserted that the CSR process enhanced student achievement in mathematics. Two principals thought the mathematics programs purchased through CSR funds were not aligned with the SOL essential knowledge and skills and, therefore, did not enhance student achievement in mathematics. One CSR school dropped the program when their SOL scores in mathematics declined.

Four of the CSR school principals believed their schools’ experiences with the CSR process were positive in impacting student achievement in mathematics. P1 stated, “Professional development was presented to each grade level to focus on data from

benchmark scores.... We're much more data driven than we used to be." The principal explained that during designated professional development days, teachers were provided opportunities to analyze their benchmark data in efforts to focus their instruction: "And that's been our tradition here. We get the teachers time to work on their data and organize their instruction and go back and know what to reteach" (P1). Another principal stated, "The scores went up tremendously.... I believe that as a result of all of the professional development we did, all the resources that came in, helped to bring the overall success of the kids" (P2).

Two participating principals acknowledged their dissatisfaction with the mathematics programs that were purchased by their school with CSR funds and implemented to enhance mathematics achievement. P4 said, "The main reason was first of all it [the program] did not correlate with what was going on in the system and did not help as much when we implemented the strategies." The other principal (PF) stated, "It [the purchased program] did not impact us, if possibly more, it hindered us."

All six participating principals indicated that the technical assistance provider served as a trainer, supporter, and advisor for enhancing instructional practices and focusing on data. P6 said, "The TAPS gave us different ideas in ways of looking at data and gave us specific feedback after observing teachers.... The TAP was our voice at CSR and was our translator during the camp trainings." The principal continued, "The TAP helped more with the logistics and made sure all the components were here that needed to be because the professional development was so intense."

The principals reported that mathematics instruction occurred daily for 60 to 90 minutes each day. One principal stated, "Some students experienced two math blocks per

day depending upon a student's needs and the grade level. This could be from 90 minutes to 120 minutes" (P2).

Research Question 2A. Has the technical assistance provider impacted the professional development component of CSR? The six principals' responded to Interview Questions 2, 7, 11, and 13, which addressed this question; their responses are summarized as follows. Overall, the principals believed the technical assistance provider served as the facilitator for implementing the 11 components of the CSR process and a key factor in effectively implementing the professional development component of CSR. The TAP served as a coach, guide, critical friend, and advisor with school leadership teams, maintaining focus on data and instructional strategies. The TAPs visited school sites regularly; these visits ranged from weekly to twice a month during the 1st year of the CSR process.

The technical assistance provider assisted with planning professional development, completed walkthroughs in classrooms, and provided feedback on the instructional strategies observed during periodic visits. One principal described the TAPs as additional eyes focused on what was working effectively in the process and where the team needed to focus to improve student achievement. The principal stated, "We would typically bounce off of each other what were the strengths and weaknesses and how things were going. It was like a checks and balances type piece as we were focusing on the instructional piece" (P1). In the role of coach, one principal stated, the technical assistance provider participated in data meetings and provided feedback. Typical statements from the TAP included "This went really good today"; "This might be the way that you want to approach it next time"; "Here's a way you can help teachers look at it

[data] that might be more beneficial.” The principal said, “This type of feedback was always a part of the visit” (P4).

The participating principals reported that the technical assistance provider served as the facilitator for implementing the 11 components of the CSR process; they considered the TAP to be a key factor in effectively implementing the professional development component of CSR. The TAP served as a critical friend and advisor and maintained a focus on data and instructional strategies directly tied to professional development.

Research Question 2B. Has professional development impacted instruction in the classroom? The six principals’ responded to Interview Questions 5 and 6 to address this question; their responses are summarized as follows. The principals reported being involved with monitoring instructional practices daily and providing teachers with feedback on a weekly basis. Monitoring consisted of formal evaluations or informal walkthroughs completed by the administrator, technical assistance provider, or members of the leadership team. Some of the many look fors during formal and informal observations and evaluations included student engagement, research-based strategies, differentiated instruction, direct instruction, and implementing the curriculum framework.

One principal reported,

We’re in an environment where the kids need to see us daily, the teachers need to see us daily, and we do it in a variety of ways from formal observations to grade level sweeps that we do with a variety of carbon type sheets. We do a quick observation in the room for 10 minutes and leave a copy for the teacher and have a copy for ourselves. So, we’re in classrooms daily. (P3)

Administrators reported that during formal observations and walkthroughs they looked for several components in an effective lesson: implementation of the curriculum framework, skill modeling, engagement of students in the learning process, use of manipulatives, and implementation of differentiated instruction to meet the learning styles of individual students.

Overall, the principals indicated that the professional development component of CSR had positively impacted instruction in the classroom. The principals observed various research-based strategies, including the use of interactive notebooks, data notebooks, manipulatives, and differentiated instruction. These strategies, learned through professional development training, enhanced instructional practices in the classrooms of participating CSR schools.

Research Question 2C. In what way has the professional development component of CSR impacted the instruction of mathematics of third- and fifth-grade students attending the 2003 CSR cohort of schools in Virginia? The six principals responded to Interview Questions 1, 3, 10, and 12, which addressed this question; their responses are summarized as follows. The participating principals stated that the research-based instructional strategies described in the book *Classroom Instruction That Works* (Marzano, 2001) provided a framework that served as a foundation for the delivery of instruction. Professional development also provided teachers with skills in developing higher level thinking skills for students, implementing collaborative teaching, and analyzing data to focus and enhance daily instruction. Overall, the professional development component of CSR positively impacted the instruction of mathematics observed during formal observations and walkthroughs.

One principal stated, “We had numerous professional development activities on Marzano’s instructional strategies, differentiating instruction, and specific strategies in math. Our TAP worked with us on strategies that might help our kids with different deficiencies that they have” (P4). Another principal stated, “The importance of CSR for me was being able to network and find additional sources to help the school to branch out” (P3). An additional principal comment was the following:

We bought many, many more manipulatives through the CSR money, particularly for math, and we still use those. Our group work increased. There was a lot more teacher-to-student instruction all the time and they [teachers] employed more group work. Again, Marzano was infiltrated into classrooms and certainly the monitoring was stepped up. (P2)

The principals indicated that the professional development component of CSR provided a focus on data and research-based instructional strategies to enhance instruction and impact student achievement in mathematics.

Teacher Survey Summary

Research Question 1. Is the CSR process effective in improving the achievement in mathematics of selected third- and fifth-grade students in Virginia? Thirteen teachers responded to Survey Questions 8, 10, 11, and 16, which addressed this question; their responses are summarized as follows. Nine of the respondents responded positively, one negatively, and three did not know. All of the respondents agreed that the professional development component of CSR enhanced effective instruction in their classroom. Of the 13 respondents, 10 agreed that data analysis impacted instructional and planning

decisions; nine believed the implementation of quarterly benchmark assessments impacted student achievement positively.

Teachers' responses attributed professional development with being a key factor in improving the mathematics achievement of students. Data analysis and benchmark assessments were utilized to focus instruction, thereby indicating an impact on the mathematics achievement of selected third- and fifth-grade students.

Research Question 2A. Has the technical assistance provider impacted the professional development component of CSR? The 13 teachers responded to Survey Questions 5, 6, and 7, which addressed this question; their responses are summarized as follows. Of the 13 respondents, seven reported that the technical assistance provider visited their school once or twice weekly or twice a month. It was interesting to note that four of the respondents indicated they did not know how often the TAPs visited their schools. Nevertheless, all but one of the teacher respondents believed the TAPs impacted the implementation of the professional development component of CSR.

The teachers' survey responses indicated the technical assistance provider was visible in most schools on a regular basis, although four teachers were unsure of how the TAP supported the implementation of professional development. Overall, the teacher survey results implied that the technical assistance provider impacted professional development during the implementation of CSR.

Research Question 2B. Has professional development impacted instruction in the classroom? The 13 teachers' responses to Survey Questions 2, 3, 4, 9, 14, and 15 addressed this question; their responses are summarized as follows. All but one of the respondents agreed that professional development provided strategies to enhance

instruction. With regard to which strategies exerted the greatest impact on classroom instruction, six teachers selected site-based learning teams and seven selected data analysis. The respondents were unanimous in their agreement that professional development contributed to effective instruction in their classrooms.

Additional factors contributing to instructional practices were indicated by some of the teacher respondents: seven teachers selected shared planning and five selected the implementation of quarterly benchmark assessments.

Research Question 2C. In what way has the professional development component of CSR impacted the instruction of mathematics with third and fifth grade students attending the 2003 CSR cohort of schools in Virginia? Teachers addressed this question by responding to Survey Questions 1, 12, and 13; their responses are summarized as follows. Of the 13 teacher respondents, eight indicated that professional development (a) assisted them with utilizing time more effectively during mathematics instruction and (b) provided them with direction on how to effectively collect and analyze data. All but three of the teacher respondents indicated that the provision of additional resources, such as manipulatives and materials, most impacted their instruction.

The teacher respondents highlighted the effective use of instructional time, data analysis, and the provision of additional resources with regard to their impact on the instruction of mathematics for third and fifth grade students attending the 2003 CSR cohort of schools in Virginia.

Synthesis of Focus Group, Principal Interview, and Teacher Survey Responses Combined

Synthesis of Research Question 1

Question 1: Is the CSR process effective in improving the achievement in mathematics of selected third and fifth grade students in Virginia? The technical assistance providers, principals, and teachers who participated in the study indicated that the CSR process had been effective in improving student achievement in mathematics. The responses of all three groups of respondents suggested that the CSR process focused professional development on data analysis, research-based instructional strategies, and team planning.

Synthesis of Research Question 2A

Research Question 2A: Has the technical assistance provider impacted the professional development component of CSR? The technical assistance providers, principals, and teachers who participated in the study indicated that the technical assistance provider had impacted the professional development component of CSR. The technical assistance provider was instrumental in emphasizing and promoting a focus on data analysis, providing constructive feedback on instructional practices, and working with teachers and teams to enhance student achievement in mathematics.

Synthesis of Research Question 2B

Research Question 2B: Has professional development impacted instruction in the classroom? The technical assistance providers, principals, and teachers who participated in the study indicated that the professional development component had impacted instruction in the classroom. All three groups consistently reported team planning, Marzano's research-based instructional strategies, and data analysis as influencing

instruction in the classroom. Teachers utilized information obtained from the data analysis of benchmark assessments to focus instruction and implemented the use of manipulatives and interactive notebooks to engage students in the process of learning skills and concepts.

Synthesis of Research Question 2C

Research Question 2C: In what way has the professional development component of CSR impacted the instruction of mathematics of third and fifth grade students attending the 2003 CSR cohort of schools in Virginia? The technical assistance providers, principals, and teachers perceived that the professional development component of CSR had impacted the instruction of selected third- and fifth-grade students.

Common themes regarding the impact on instruction emerged from the focus group interviews, principal interviews, and teacher surveys. The researcher defined common themes as those themes that were mentioned by at least half of the respondents on two of the three data collection instruments. A synthesis of common themes is illustrated in Table 31.

Table 31

Common Themes Emerging from the Interviews and Surveys

Themes	Focus group (n = 4)	Principal interview (n = 7)	Teacher survey (n = 13)
Data analysis	4 of 4	7 of 7	10 of 13
Instructional strategies	4 of 4	6 of 7	11 of 13
Manipulatives	3 of 4	5 of 7	10 of 13
Interactive notebooks	2 of 4	5 of 7	3 of 13
Monitoring instruction via walkthroughs	4 of 4	7 of 7	4 of 13
Student engagement	3 of 4	7 of 7	NA
Quarterly benchmark assessments	4 of 4	7 of 7	9 of 13
Minutes for instruction	NA	7 of 7	8 of 13
TAP as coach	4 of 4	7 of 7	N/A

Additional data for the seven schools participating in this study included SOL pass rates in mathematics for all students. These data were retrieved from the Virginia State School Report Card, Virginia Department of Education, at www.doe.virginia.gov. Table 32 presents the mathematics pass rates of all students for 3 years: the year prior to CSR implementation, the first year of CSR implementation, the most recent year of CSR implementation. Table 32 also depicts for the participating schools the positive growth in mathematics pass rates from the year before CSR implementation to the most recent year of CSR implementation.

Table 32

SOL Pass Rates Before and After CSR Implementation

CSR school	Year before CSR	CSR first year	CSR last year	Difference
1	42.23%	62.98%	93.00%	+ 50.77%
2	52.97%	55.56%	66.00%	+ 13.03%
3	57.72%	56.91%	61.00%	+ 3.28%
4	54.86%	48.02%	82.00%	+ 27.14%
5	47.38%	61.05%	75.00%	+ 27.62%
6	47.58%	57.01%	79.00%	+ 31.42%
7	No report*	13.79%	31.00%	+ 17.10%*
Total Average	43.73%	43.61%	69.57%	+25.84%

The researcher also retrieved statewide SOL pass rates for third and fifth grade students for the 2003-2004, 2004-2005, and 2005-2006 school years. Three years of SOL statewide pass rates for third and fifth grade students are presented in Table 33. Table 33 also depicts the positive growth in SOL pass rates between 2003-2004 and 2005-2006. In all cases the CSR schools made more growth than the state average rate of growth.

Table 33

Statewide SOL Pass Rates

Grade Level	2003-2004	2004-2005	2005-2006	Difference
3 rd	87%	88%	90%	+3%
5 th	85%	85%	87%	+2%
Total Average	86%	87%	89%	+3%

Summary

Chapter 4 presents the findings regarding the impact of the professional development component of Comprehensive School Reform on the mathematics achievement of third and fifth grade students whose schools participated in the 2003 CSR cohort. For the study, data were collected through (a) a focus group consisting of four technical assistance providers, (b) interviews of seven principals, and (c) surveys of thirteen teachers. The qualitative data were examined to determine the impact of professional development on mathematics instruction and achievement in the classrooms of the 2003 CSR cohort of participating schools.

Triangulation of the data revealed that professional development impacted the delivery of mathematics instruction as well as the mathematics achievement of third and fifth grade students. The focus group of technical assistance providers, the principal interviewees, and the teacher survey respondents indicated that professional development provided a focus for data analysis, research-based instructional strategies, and team collaboration.

A discussion of the results, implications, and recommendations for further study is presented in chapter 5.

CHAPTER 5: SUMMARY, FINDINGS, RECOMMENDATION FOR PRACTICE,
RECOMMENDATION FOR FUTURE STUDY, LIMITATIONS, AND
REFLECTIONS

Chapter 5 presents a summary of the study followed by the findings, recommendations, limitations, and reflections. This information was captured from an analysis of the data described in chapter 4. Following the researcher's recommendations for future study are her personal reflections regarding the impact of professional development on student achievement of third and fifth grade students.

Summary

The purpose of this qualitative study was to determine the impact of the professional development component of Comprehensive School Reform (CSR) on student achievement, as measured by the third and fifth grade mathematics Standards of Learning assessments of the 2003 CSR cohort of selected schools in Virginia. A qualitative study design was selected to gather data through a focus group interview, individual interviews, and a survey. The focus group interview included technical assistance providers ($n = 4$) who served in schools participating in Comprehensive School Reform. Principal interviews ($n = 7$) were conducted with principals from six school districts in Virginia. In addition, a teacher survey ($n = 13$) provided a third source of data.

These three sources served to triangulate the data, strengthen the credibility of the study, and help reduce bias that might have resulted from relying exclusively on any

particular data collection method. Triangulation of data was used to show how themes emerged from the three data sources to support or not support the overarching research question.

As stated in chapter 1, the research questions guiding this inquiry were as follows:

1. The overarching question

Is the CSR process effective in improving the achievement in mathematics of third and fifth grade students?

2. The three subordinate questions

A. Has the technical assistance provider impacted the professional development component of CSR?

B. Has professional development impacted instruction in the classroom?

C. In what way has the professional development component of CSR impacted the instruction of mathematics of third and fifth grade students attending the 2003 CSR cohort of schools in Virginia?

The research questions were developed for the purpose of determining the impact of the professional development component of Comprehensive School Reform on mathematics achievement.

Findings

Finding 1

The CSR process was effective in improving the achievement in mathematics of third and fifth grade students based on the SOL pass rates of third- and fifth-grade students in the 2003 CSR cohort of participating schools in Virginia.

For the year prior to the implementation of CSR in the seven participating schools, the average SOL pass rate for mathematics was 43.73%. After the 3rd year of CSR implementation, the average SOL pass rate for the seven participating schools was 69.57%. There was a pass rate gain of 25.84% in the CSR schools included in this study.

During an interview with a principal participant, the researcher was informed of the impact of CSR on mathematics achievement. The participant stated, “After the 2nd year of CSR, the scores went up tremendously; our third graders passed math with like a 74% or 75% pass rate.”

Previous research supports the above findings. According to Borman et al. (2003), the average student attending CSR schools outperformed other students by 55%. Holdzom’s (2002) findings reported achievement gains by the 3rd year of CSR implementation. Borman et al. also noted that student achievement gains were statistically significant based on the implementation of research-based strategies that included direct instruction and data analysis.

Finding 2

There is a need for additional and consistent training of educators to meet the needs of a diverse student population. Comprehensive School Reform provides a prescriptive process to meet the instructional needs of teachers, who ultimately impact student achievement.

The professional development component of CSR was provided to enhance instruction and impact student achievement. Marzano’s research-based strategies were introduced to teachers and modeled during ongoing professional development. The principal interview and teacher survey results highlighted the impact of professional

development on instruction. Of the 13 teacher respondents 11 believed that professional development provided strategies to enhance instruction. The majority of the principal participants also indicated the professional development component of CSR had positively impacted instruction in the classroom.

All seven principals indicated that professional development had impacted classroom instruction and provided teachers with specific instructional strategies to increase learning. One principal stated,

We bought many, many more manipulatives through the CSR money, particularly for math, and we still use those. Our group work increased. There was a lot more teacher-to-student instruction all the time and they [teachers] employed more group work.

The technical assistance providers also agreed that professional development impacted teaching and learning. One TAP stated, “The real impact of professional development is what happens in the classroom.” Another participant (FGB) said, “A lot of that learning takes place in those grade level meetings when you look at data and that’s a critical piece of professional development.” The teacher survey responses revealed that 11 of the 13 teachers believed the professional development component of CSR had enhanced instruction.

Studies support the need for the school reform process to include professional development. The study of Wetherill and Applefield (2005) concluded, “Professional development is critical for successful change efforts” (p. 201). Ross et al. (2002) reported contributing factors related to the success of schools implementing CSR; one

contributing component was “the critical need for quality ongoing professional development” (p. 24).

The research of DuFour and Eaker (1998) further supported the link of professional development to three national standards identified by the national Staff Development Council (NSDC) for elementary schools: the content, process, and context that support professional development initiatives. These studies and researchers illustrated the need for instructional support for teachers through professional development that emphasizes the effective implementation of research-based strategies needed to impact student achievement in mathematics.

Finding 3

The statewide mathematics Virginia Standards of Learning (SOL) results for third and fifth grade students’ assessments for the 3-year period 2003-2006 indicated a 3% increase in the pass rate.

The researcher noted a gap in the overall pass rate of all Virginia students during the same 3-year period. The nominal increase in the pass rates of all students in the Commonwealth of Virginia during the 3-year period included is parallel to findings in the preliminary report presented by the National Mathematics Advisory Panel in January 2007. That panel reiterated the “growing national concern about the mathematics proficiency of young people emerging from our schools in the next decades” (National Mathematics Advisory Panel 2006).

Finding 4

The technical assistance provider was instrumental as a coach in the professional development component of CSR.

The data suggested that the technical assistance provider impacted professional development by serving as a coach and mentor to the administrators and teachers of the school in which he or she served. One technical assistance provider stated, “You served as a resource to identify professional development.” A principal participant (P3) remarked, “The TAP provided guidance and assistance and gave us advice on implementing the CSR program.”

This finding is supported by the Memphis study of Ross et al. (2002), which reported, “The qualitative data also summarizes the impact of the external facilitators, coaches and providers of CSR designs who are well trained, knowledgeable, and effective in working with staff” (p. 5).

Finding 5

Schools that participated in Comprehensive School Reform implemented professional development to train staff in research-based strategies that enhanced instruction and impacted learning.

Analysis of the data revealed the positive impact of the professional development component of Comprehensive School Reform on student achievement in mathematics. The professional development component included training on Marzano’s research-based strategies. All four of the focus group participants, six of the seven principals, and 11 of the 13 teachers indicated that research-based instructional strategies were provided to staff.

One principal participant (P5) stated, “We had numerous professional development [activities] on Marzano’s instructional strategies with specific strategies in math.” Another principal participant (P3) commented, “We worked a lot on Marzano’s

strategies and this provided good strong teaching.” A technical assistance provider (FG2) stated, “Everyone needed to have an instructional plan that was research-based. The Marzano strategies I thought were with a clear focus.” Another technical assistance provider (FG4) said, “We did a book study on Marzano’s book, and teachers developed the presentations on the different strategies and presented it to the teachers.” Eleven of the thirteen teacher survey respondents indicated that research-based instructional strategies were elements of the professional development.

This finding is supported by the research of Bennett et al. (1999), whose study reported greater academic gains for students in classrooms where teachers had implemented effective research-based strategies.

Finding 6

The professional development component of CSR provided training in the use of data analysis to focus instruction. Through professional development, teachers learned to analyze SOL scores and quarterly benchmark assessments and, based on that analysis, to plan instructional strategies designed to increase student achievement in mathematics.

In response to interview questions, all four of the technical assistance providers, all seven principal participants, and 10 of the 13 teachers who participated in this study noted the importance of learning how to analyze data. Professional development provided teachers with structures and time to analyze data that focused instruction to impact student achievement.

Participants’ comments illustrated the importance of data analysis. One technical assistance provider (FG3) remarked, “Each school analyzed their achievement data, utilizing the Student-Performance-by-Question information to focus instruction.”

Another (FG2) stated, “For the most part, everyone had a more narrow focus on the use of data and how to translate that data to use in actual lesson planning and lesson implementation for students.” Another technical assistance provider (FG4) said, “In the schools where I’ve worked, they also had a narrower focus on remediation based on that data analysis.” Professional development provided research-based strategies to enhance instruction designed to enable all students to meet challenging academic content and performance goals in mathematics.

In addition to the SOL data, teachers analyzed quarterly benchmark assessments to bring focus to specific skills students needed to gain understanding and proficiency in mathematics. Therefore, with consistent research-based professional development, educators were prepared to teach a wide range of diverse learners and impact their achievement.

This finding is supported by researchers Marzano et al. (2001), who concluded that the “art” of teaching has transformed to the “science” of teaching.

Finding 7

Additional professional development training is needed for teachers to effectively implement the walkthrough strategy as a tool to provide informal feedback to teachers regarding their implementation of research-based strategies.

Teachers should be provided opportunities to visit the classrooms of their colleagues to observe specific lessons and strategies and offer feedback based on an agreed-upon rubric or specific look for in the lesson. This activity will provide teachers with time to observe and share ideas regarding areas of strength and areas of consideration for growth.

Recommendations for Practice

Based on the study's findings, the following recommendations are presented by the researcher:

Recommendation 1

Comprehensive School Reform should continue as a process designed specifically to support Title I public schools that have not demonstrated proficiency based on state standards or met the federal mandates of the No Child Left Behind legislation. The No Child Left Behind Act (2001) addresses preventive and intervention programs for children who attend Title I schools and proposes to improve educational programs that impact student achievement. Researchers Glennan et al. (2005) reported, "The federal government has invested in developing and implementing innovative reforms intended to change the existing practices of teachers and schools" (p. 11). Borman et al. (2003) studied how the effects of the various CSR components, including professional development, positively impacted student achievement.

Based on the findings, the CSR process should continue to be implemented in Title I schools that have not met the benchmarks of Adequate Yearly Progress of the NCLB legislation.

Recommendation 2

The professional development component of the CSR process should continue to provide teachers with training in research-based instructional strategies to enhance teaching and impact students' learning. Researchers Dilworth and Imig (1995) reported, "Professional development must serve the purpose of promoting teachers' learning" (p. 9). Wenglinsky (2002) presented findings that linked professional development with

highly qualified teachers and student achievement. Fleming (2005) stated, “In professional learning communities, teachers and administrators are actively involved in a process of continuous learning” (p.12).

Recommendation 3

The professional development component of the CSR process should continue to provide teachers with training in the use of data analysis to focus instruction on specific mathematical skills and test-taking strategies.

Recommendation 4

The professional development component of the CSR process should continue to be implemented to sustain effective best practices that impact student achievement. Based on the findings of Dufour and Eaker (1998), professional development provides the knowledge and skills teachers need to impact student achievement.

Recommendation 5

Professional development in the CSR process should continue to include common planning time, collaboration, achievement gap analysis, data analysis, vertical team planning, and peer observations. Researchers Sparks and Hirsh (1997) report how professional development “affects the knowledge, attitudes, and practices of individual teachers” that impact student achievement.

Recommendation 6

Title I schools that do not consistently meet minimum academic standards should continue to receive state and local support. This support should include resources to fund professional development, monitor instructional practices, and sustain learning communities. The No Child Left Behind Legislation (2001) states the federal

government is responsible for providing support to schools that have not met the benchmarks for Adequate Yearly Progress (AYP). States are accountable for the academic achievement of all students.

Recommendation 7

Title I schools that do not consistently meet minimum academic standards should require staff to participate in graduate courses designed specifically to differentiate instruction so that they can meet the academic needs of students in a selected content area. As needed, staff should be required to participate in courses designed specifically to develop instructional skills that are needed to impact the mathematics achievement of all students. American students continue to demonstrate low achievement in mathematics and this has become an urgent concern of the United States Department of Education. The National Mathematics Advisory Panel. (2006) was established to address the issue of mathematics performance of America's students.

Recommendations for Future Studies

Recommendation 1

Conduct a qualitative study in three to five years to measure the impact of the professional development component of CSR on the reading achievement of third and fifth grade students attending Virginia Title I schools.

Recommendation 2

Conduct a qualitative study in three years to measure the sustainability of instructional best-practice strategies gained from the professional development offerings supported by the CSR process implemented in Virginia Title I schools.

Recommendation 3

Conduct a quantitative study in three to five years to measure the mathematics achievement of student subgroups identified in the No Child Left Behind legislation.

Recommendation 4

Conduct a qualitative study in five years to measure the sustainability of data analysis practices and their impact on student achievement.

Limitations of the Study

One limitation of this study was its narrow focus: the number of Title I schools that were members of the 2003 CSR cohort of schools in the Commonwealth of Virginia. The study focused only on these Title I schools that had not met the SOL benchmark in mathematics prior to the implementation of the CSR process. Additional limitations of the study included the following: (a) the small sample size of technical assistance providers, principals, and teacher respondents; (b) the lack of an available control group for comparative purposes.

Reflections

Schools are under tremendous pressure to establish and maintain a positive impact on student achievement. Comprehensive School Reform (CSR) transforms the way a school operates to accomplish the goal of enhanced achievement for all students. The purpose of this study was to determine the impact of the professional development component of CSR on student achievement in mathematics for third and fifth grade students attending certain 2003 cohort CSR schools in Virginia.

Teaching mathematics effectively continues to be challenging for public school educators across the nation. Virginia's Standards of Learning initiative has provided a

focus for teaching and learning mathematics and has prompted reform in mathematics education for the Commonwealth. Although several factors impact learning, one important factor in the process of educating students is the quality of instruction they receive to enhance their academic achievement in mathematics.

This study has provided perceptions of the ways in which quality professional development and research-based instructional strategies have impacted student achievement in mathematics at the third and fifth grade levels for students in the participating CSR Title I schools. Technical assistance providers, principals, and teachers shared their views regarding the impact of professional development and quality instruction on student achievement.

Review of the literature and the research conducted for this study have heightened the researcher's knowledge and interest in school reform with a focus on the mathematics achievement of American students in third and fifth grades. The recent establishment of the National Mathematics Advisory Panel represented an urgent need to address mathematics education in the United States. To date, the panel has not presented findings to the President as outlined in the initial responsibilities of the committee.

This study has created a framework for additional research about the impact of Comprehensive School Reform on student achievement in mathematics. The study also has provided a catalyst for further research on the impact of CSR on student achievement in the other core subjects of reading, science, and social studies. The researcher will continue to remain informed of the reports and findings presented by National Mathematics Advisory Panel.

References

- Aladjem, D.K., & Borman, K.M. (2005). *The lifecycle of comprehensive school reform*. Paper presented at the annual meeting of the American Educational Research Association, Montreal, Canada.
- Amrein, A. L., & Berliner, D. C. (2002). High-stakes testing, uncertainty and student learning. *Educational Policy Analysis Archives*, 10(18). ISSN 1068-2341. Retrieved July 15, 2006, from <http://olam.ed.asu/epaa/v10n18/>
- Baker, S., Gersten, R., Dimino, J., & Griffiths, R. (2004). The sustained use of research-based instructional practice: A case study of peer-assisted learning strategies in mathematics. *Remedial and Special Education*, 25, 5-24.
- Bell, L. (2005). *12 powerful words that increase test scores and help close the achievement gap*. Multicultural America, Inc.
- Bennett, T., Rhine, S., & Sloan. (1999). The role of research and teachers. *American Educational Research Journal*, 30(3), 555-583.
- Berliner, D. C., & Biddle, B. J. (1995). *The manufactured crisis, myths, fraud and the attack on America's public schools*. Reading: MA: Addison-Wesley Publishing Co., Inc.
- Berman, P., & McLaughlin, M. (1977). Federal programs supporting educational change. Rand Report 8, 158/8-HEW.
- Borman, G. D., Hewes, G. M., Overman, L. T., Brown, S. (2003). Comprehensive School Reform and Achievement: A Meta-Analysis. *Review of Educational Literature*, 73(2), 125-230.

- Borman, G. D., & Overman, L. T. (2004). Academic resilience in mathematics among poor and minority students. *Elementary School Journal, 104*(3), 177-195.
- Borman, G.D., Hewes, G.M., Overman, L.T., & Brown, S. (2003). Comprehensive school reform and achievement: A meta-analysis. *Review of Educational Research, 73*, 125-230.
- Cavel, L. (2001). *Unlocking the 11 components of CSR*. Washington, D.C.: National Clearinghouse for Comprehensive School Reform.
- Cohen, D. K., & Hill, H. C. (2001). *Learning policy: When state education works*. New Haven, CT: Yale University Press.
- Cohen, S. (2004). *Teachers' professional development and the elementary mathematics classroom: Bringing understandings to light*. Mahwah, NJ: Lawrence Erlbaum Associates, Inc.
- Commonwealth of Virginia. (1998). Superintendent's Memo #35, June 12, 1998. Retrieved July 16, 2006, from www.doe.virginia.gov/VDOE?suptsmemos/1998/adm035.html
- Commonwealth of Virginia. (2003). Superintendent's Memo #210, December 12, 2003. Retrieved July 5, 2006 from www.pen.k12.va.us/VDOE/suptsmemos/2003/inf210.html
- Crandall, D., & Loucks, S.F. (1982). *The practice profile: An all-purpose tool for program communication, staff development, evaluation, and improvement*. Andover, MA: The NETWORK, Inc.
- Creswell, J. W. (2003). *Research design: Qualitative, quantitative, and mixed methods approaches* (2nd ed.). Thousand Oaks, CA: Sage Publications, Inc.

- Darling-Hammond, L. (1997). *The right to learn*. San Francisco: Jossey-Bass.
- Darling-Hammond, L., & McLaughlin, M. (1995). Policies that support professional development in an era of reform. *Phi Delta Kappan*, 76(8), 597-604.
- Datnow, A., Borman, G., Stringfield, S., Overman, L. & Castellano, M. (2003). Comprehensive school reform in culturally and linguistically diverse contexts: implementation and outcomes from a four-year study. *Educational Evaluation and Policy Analysis*, 25(2), 143-170.
- Deschenes, S., Cuban, L., & Tyack, D. (2001). Mismatch: Historical perspectives on schools and students who don't fit them. *Teachers College Record*, 103(4), 525-547.
- Desimone, L. M., Porter, A. C., Garet, M. S., Yoon, K. S., & Birman, B. F. (2002). Effects of professional development on teachers' instruction: Results from a three-year longitudinal study. *Educational Evaluation & Policy Analysis*, 24(2). Retrieved July 12, 2006, from <http://epa.sagepub.com/cgi/content/abstract/24/2/81>
- Dilworth, M. E., & Imig, D. G. (1995). *Professional teacher development and the reform agenda*. ERIC Document No. ED383694. Washington, DC: ERIC Clearinghouse on Teaching and Teacher Education.
- Dorn, S. (2000). America Y2K: The obsolescence of educational reforms. *Educational Policy Analysis Archives*, 8(2). Retrieved July 16, 2006, from <http://epaa.asu.edu/epaa/v8n2.html>

- DuFour, R. & Eaker, R. (1998). Building the foundation of a professional learning community: Values and goals. In R. DuFour & R. Eaker, *Professional learning communities at work* (p. 132). Bloomington, IN: National Educational Service.
- Edmonds, R. (1979). Effective schools for the urban poor. *Educational Leadership*, 37(1), 15-24.
- Elmore, R. F. (1996). *Restructuring schools*. Oakland, CA: Jossey-Bass.
- Fleming, T. (2005). *School Reform*. New York: Teachers College Press.
- Fullan, R., & Steigelbauer, S. (1991). *The new meaning of educational change*. New York: Teachers College Press.
- Gainey, D. D. (1993). *Education for the new century*. Reston, VA: National Association of Secondary Principals.
- Gall, M.D., Borg, W.R. & Gall, J.P. (1996). *Educational research: An introduction (6th ed.)*. New York: Longman Publishers.
- Garet, M. S., Porter, A. C., Desimone, L., Birman, B. F., & Yoon, K. S. (2001). What makes professional development effective? Results from a national sample of teachers. *American Educational Research Journal*, 38(4), 915-945.
- Glennan, T. K., Jr. (1998). *New American schools after six years*. Santa Monica, CA: RAND, MR-945-NASDC.
- Glennan, T.K., Bodilly, S.J., Galegher, J., & Kerr, K.A. (Eds.) (2005). *Expanding the reach of education reforms: Perspectives from leaders in the scale-up of educational interventions*. Santa Monica, CA: RAND.

- Good, T. L., Burross, M. A., & McCaslin, M. M. (2005). Comprehensive school reform: A longitudinal study of school improvement in one state. *Journal of Education for Students Placed at Risk*, 10(1), 33-51.
- Grigg, W.S., Daane, M.C., Jin, Y., & Campbell, J. R. (2003). *The nation's report card: Reading 2002*. Washington, DC: U.S. Department of Education, Institute of Educational Sciences.
- Hansel, L. (2007). *Unlocking the 11 components of CSR*. Washington, DC: National Clearinghouse for Comprehensive School Reform (NCCSR), U.S. Department of Education, Office of Elementary and Secondary Education.
- Hewitt-Taylor, J. (2001). *Use of constant comparative analysis in qualitative research*. Nurs Stand. 15(42): 39-42.
- Holdzkom, D. (2002). *Effects of comprehensive school reform in 12 schools: Implications for a three-year study*. Charleston, WV: Appalachian Educational Laboratory (AEL).
- Hopkins, D., Ainscow, M., & West, M. (1994). *School improvement in an era of change*. London: Cassell.
- Houston, J. & Pounder, D.G. (2005). *Utah comprehensive school reform evaluation report*. Center for Public Policy and Administration , University of Utah.
- Johnson, S. (1998). *Who moved my cheese? an amazing way to deal with change in your work and in your life*. New York: G.P. Putman's Sons.
- Lieberman. A. (Ed.). (1995). *The work of restructuring schools: building from the ground up*. New York: Teachers College Press.

- Linn, M. (2006). *Workshop on enhancing professional development for teachers: Potential uses of information*. Presented at the National Academy of Science, February 8-9, Irvine, CA.
- Marzano, R. J., Pickering, D. J. & Pollock, J. E. (2001). *Classroom instruction that works: Research-based strategies for increasing student achievement*. McREL, Alexandria, VA: Association for Supervision and Curriculum Development.
- McLaughlin, M.W. (1990). The Rand Change Agent Study revisited: Macro perspectives and micro realities. *Educational Researcher*. 19(9) 11-16.
- Mid-continent Research for Education and Learning (McREL). (2006). *About comprehensive school reform: What is the Comprehensive School Reform Program?* Retrieved July 2, 2006 from http://www.mcrel.org/csrd/About_CSR/.
- National Commission on Excellence in Education. (1983). *A nation at risk*. Retrieved July 2, 2006, from www.ed.gov/pubs/NatAtRisk/index.html
- National Mathematics Advisory Panel. (2006). Presidential Executive Order 20519. Retrieved July 9, 2006 from www.ed.gov/news/press/206/05/05152006a.html
- North Central Regional Educational Laboratory (NCREL). (2006). *Comprehensive School Reform: Technical assistance*. Retrieved July 2, 2006 from <http://ncrel.org/policy/feature/csr.htm>
- Northwest Regional Educational Laboratory (NWREL). (2001). *Onward to Excellence II*. Retrieved February 25, 2007, from <http://www.nwrel.org/scpd/ote>
- Northwest Regional Educational Laboratory. (2003). *Comprehensive School Reform topics*. Retrieved December 27, 2005 from <http://www.nwrel.org/comm/topics/csr.html>

- O'Shea, D. J., & O'Shea, L. J. (1997). Collaboration and school reform: A twenty-first century perspective. *Journal of Learning Disabilities, 30*, 449-462.
- O'Shea, M. (2005). *From standards to success*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Program for International Student Assessment (PISA), (2003). *The PISA 2003 Assessment Framework: Mathematics, Reading, Science and Problem Solving Knowledge and Skills*. Retrieved July 19, 2006 from <http://www.oecd.org/dataoecd/46/14/33694881.pdf>
- Randall, D. (1982). *People, policies and practices: Examining the chain of school improvement 1*(10). Andover, MA: The Network.
- Ross, S., Tabachnick, S., & Sterbinsky, A., (2002). *Using comprehensive school reform models to raise student achievement: Factors associated with success in Memphis schools*. Prepared for New American Schools, The University of Memphis.
- Sanders, W. & Horn, P. (1994). The Tennessee value-added assessment system (TVAAS): Mixed Methodology in educational assessment. *Journal of Personnel Evaluation in Education, 8*(1).
- Schlechty, P. (1997). *Inventing better schools: An action plan for educational reform*. San Francisco: Jossey-Bass.
- Schmoker, M. (1999). *Results: The key to continuous school improvement* (2nd ed.). Alexandria, Virginia: Association for Supervision and Curriculum Development.
- Sizer, T., & Slavin, R. (1999). *Education Commission of the States and Comprehensive School Reform: Five lessons from the field*, Denver, CO: ECS.

- Slavin, R. E. (2005). *Show me the evidence: Effective programs for elementary and secondary schools*. Washington, DC: Center for American Progress and the Institute of Education Sciences, U.S. Department of Education, Grant No. R305A040082.
- Sparks, D., & Hirsh, S. (1997). *A new vision for staff development*. Alexandria, Virginia: Association for Supervision and Curriculum Development.
- Tirozzi, G. N., & Uro, G. (1997). Education reform in the United States: National Policy in support of local efforts for school improvement. *American Psychologist*, 52(3).
- Tushnet, J., & Flaherty, Jr. (2004). Longitudinal Assessment of Comprehensive School Reform Program Implementation and Outcomes: First Year Report. U.S. Department of Education, Grant No ED485480.
- United States Department of Education. (2001). *Elementary and Secondary Education Act (2001)*. ESEA's Title I, Part F. Retrieved December 26, 2005, from <http://www.ed.gov/programs/compreform/index.html>
- U.S. Department of Education. (2002). No Child Left Behind. Retrieved December 26, 2005 from <http://www.ed.gov/nclb/landing.html>
- United States Department of Education. (2004a). *Comprehensive School Reform Program: About CSR*. Retrieved July 2, 2006, from <http://www.ed.gov/programs/compreform/2pager.html>
- United States Department of Education. (2004b). *Longitudinal assessment of Comprehensive School Reform Program implementation and outcomes: First year report*. Retrieved July 11, 2006, from <http://www.ed.gov/rschstat/eval/other/lacio/index.html>

- United States Department of Education (2006). *National Mathematics Advisory panel: Strengthening math education through research*. Retrieved July 9, 2006, from <http://www.ed.gov/news/pressreleases/2006/05/05152006a.html>
- United States House of Representatives. (1994). *Goals 2000*. Retrieved December 27, 2005, from <http://www.ed.gov/legislation/GOAL2000/TheActsec211.html>
- United States House of Representatives. (1997). *Comprehensive School Reform Demonstration Program* (HR1-P.L. 107-78). Washington, D.C.: U.S. Congress. Retrieved December 27, 2005, from <http://www.ed.gov/policy/elsec/leg/esea/021/10/10.pdf>
- United States House of Representatives. (2001). *107th Congress Conference Report No Child Left Behind Act of 2001*. (HR1-P.L. 107-110-Title I part F). Washington, D.C.: U.S. Congress. Retrieved December 27, 2005, from <http://www.ed.gov/policy/elsec/leg/esea/021/10/10.pdf>
- Virginia Department of Education. (n.d.). *Standards of Learning Resources*. Retrieved July 18, 2006, from <http://www.pen.k12/va/us/VDOE/Instruction/sol.html>
- Virginia Department of Education. (n.d.). *Virginia Standards of Learning School Reports*. Retrieved February 22, 2007, from <http://www.doe.virginia.gov>
- Virginia Department of Education. (2006). Title I, Part A: Improving the academic achievement of the disadvantaged. Retrieved July 16, 2006, from <http://www.doe.virginia.gov/VDOE?Instruction/title1/index.shtml>
- Virginia Division of Legislative Services (2003). *Virginia legislative issue brief no. 34*, September, 2003. Retrieved July 16, 2006 from <http://dls.state.va.us/pubs/briefs/brief34.htm>

Virginia Division of Legislative Services (2003). *Virginia legislative issue brief no. 35*, September, 2003. Retrieved July 16, 2006 from

<http://dls.state.va.us/pubs/briefs/brief35.htm>

Wenglinsky, H. (2002). How schools matter: The link between teacher and classroom practices and student achievement. *Educational Policy Analysis Archives*, 10(12).

Retrieved July 9, 2006 from <http://epaa.asu.edu>

Wetherill, K.; & Applefield, J. (June, 2005). Using school change to analyze comprehensive school reform projects. *School Effectiveness and School Improvement*, 16(2), 197-215.

Appendices

Appendix A- Validation Instrument Approval E-Mail

A

Mon, Nov 27, 2006 6:06 PM

Subject: Re: Validation Instrument
Date: Monday, November 20, 2006 7:24 AM
From: Dale Margheim <margheim@mail.mcps.org>
Reply-To: margheim@mail.mcps.org
To: <vslade@sbo.hampton.k12.va.us>

Permission is granted.
Please just cite appropriately and notify me when your study is finished so that I may read it.
Best wishes,

Dale E. Margheim, Ed.D.
Principal
Falling Branch Elementary School
735 Falling Branch Rd.
Christiansburg, VA 24073
540.381.6145
540.381.6148 (FAX)

----- Original Message -----
From: vslade@sbo.hampton.k12.va.us
Date: Sun, 19 Nov 2006 23:03:20 -0500

>Dear Dr. Margheim,
>
>I am a doctoral candidate at Virginia Polytechnic Institute
>and State University in Blackburg, Virginia. The focus of my
>research is the impact of the professional development
>component of Comprehensive School Reform in Virginia on
>student achievement in mathematics.
>
>Prior to gathering data for my research, I will need to validate
>the instruments I will utilize to collect the data. With your
>permission, I'd like to use the tool you've established in order to
>validate the teacher survey questions, principal interview
>questions and the focus group questions that relate to my
>research topic.
>
>Your approval will be greatly appreciated. Please respond to
>vslade@sbo.hampton.k12.va.us or call me at 757 766-5250 if
>you have any questions.
>
>Sincerely,
>Vatara C. Slade
>
>
>
>
>

Sent via the MCPS WebMail system at mail.mcps.org

Comprehensive School Reform

Appendix B - Technical Assistance Provider's Letter and Permission Form

February 5, 2007

Dear Member of the Technical Assistance Providers Focus Group,

My name is Vatara Slade and I am a doctoral student at Virginia Polytechnic Institute and State University in Blacksburg, Virginia. I am also an elementary school principal with Hampton City Schools in Hampton, Virginia.

This letter is to invite you to participate in a focus group interview to explore the impact of the professional development component of Comprehensive School Reform (CSR) on the mathematics achievement of third and fifth grade students whose schools participated with CSR. Due to the heightened accountability of student achievement legislated by the Virginia Standards of Learning and at the federal level with the No Child Left Behind legislation, Comprehensive School Reform has become one avenue to assist Title I schools not meeting the SOL benchmarks established by the Commonwealth and the NCLB criteria. The study will involve approximately 80 participants to include teachers, principals and technical assistance providers (TAPs).

The technical assistance providers (TAPs) who participated in the process of Comprehensive School Reform (CSR) will be invited to meet as a focus group in order to respond to approximately eight questions relating to professional development, CSR, mathematics instruction, and technical assistance providers, and seven questions relating to their professional status. The researcher will facilitate the focus group interview that will last approximately an hour and will take place on February 27, 2007 in Richmond.

Your input will provide valuable information and give assistance to other educators

Comprehensive School Reform

desiring to implement the CSR process that may impact student achievement at their individual schools.

With your permission, the interview will be audio taped and transcribed by a stenographer. All transcriptions will be secured, coded and stored by the researcher. Although direct quotes will be included in the report, your name will not be included in the study and all data will be reported in a summative manner. Also, no school district or specific school will be identified in the study. The tapes will remain secured in my possession and destroyed upon the completion of the study.

Please sign the form indicating your response to participate. Again, all responses will be strictly confidential and your name will not be associated with any report of the study.

A summary of findings will be provided upon your request. If you have any questions or concerns, please contact me at vslade@sbo.hampton.k12.va.us or call 757-766-5250.

Thank you for your assistance with this study. Your participation will be greatly appreciated.

Sincerely,

Vatara C. Slade

Doctoral Student

Invitation to Participate in a Study

The Impact of the Professional Development Component of Comprehensive School

Reform on the Mathematics Achievement of

Selected Third- and Fifth-Grade Students in Virginia

Permission Form Response

_____ I will participate in the study.

_____ I do not wish to participate in the study.

Technical Assistance Provider's Signature

CSR School

CSR School

Focus Group Technical Assistance Providers

Technical Assistance Providers' Perceptions of the Impact of the Professional Development Component of Comprehensive School Reform on the Mathematics Achievement of selected Third- and Fifth-Grade Students in Virginia

Ice Breaker Questions:

Why did you decide to become involved with Comprehensive School Reform in VA?

What are some of the byproducts of the CSR process?

If Comprehensive School Reform became headline news in tomorrow's newspaper, what would be the title of this breaking news?

Key

Research Questions:

- (1) Is the Comprehensive School Reform process effective in improving the achievement in mathematics of third- and fifth-grade students?
- (2) Has the technical assistance provider impacted the professional development component of Comprehensive School Reform?
- (3) Has professional development impacted instruction in the classroom?
- (4) In what way has the professional development component of CSR impacted the instruction of mathematics of third- and fifth-grade students attending CSR schools in Virginia?

As you are aware, Comprehensive School reform has 11 components that are to be implemented throughout the process. This study will focus on the professional development component of CSR and the impact of the technical assistance provider on student achievement in mathematics. Thank you for responding to the following questions:

1. How do you describe the role of the technical assistance provider?
2. How often was professional development provided for teachers during the 1st year of CSR implementation?
3. To what do you attribute enhanced student achievement in mathematics or language arts during the implementation of CSR?
4. How often did you visit your assigned school during the 1st year of CSR implementation?
5. Describe one of your visits with the staff—purpose, activity, discussion, etc.
6. What types of professional development offerings were provided during the CSR process?
7. What research-based strategies facilitated by the technical assistance provider impacted student achievement in mathematics or language arts?
8. How often did you monitor instructional practices? What were some of your “look-fors” during mathematics or language arts instruction?
9. How has the process of CSR impacted student achievement in mathematics or language arts?

Technical Assistance Provider Demographics: Please answer the following questions about your professional status and assigned school(s):

1. Indicate the highest degree you have received.

- Bachelor's Degree
- Master's Degree
- Master's Degree plus 30 hours
- Educational Specialist or Certificate of Advanced Studies
- Doctorate

2. How many years did you teach on the elementary level (K-5)

- 1-5
- 6-10
- 11-15
- More than 15 years

3. How many years did you serve in the capacity of a school administrator?

4. How many years did you serve as a school division superintendent or assistant superintendent?

5. The school(s) I served during CSR is (are) currently fully accredited based on the Virginia Standards of Learning (SOL).

School I

- Yes
- No

School II

- *Yes
- *No

6. The school(s) I served during CSR currently made Adequate Yearly Progress (AYP) as established by the No Child Left Behind legislation (NCLB)

School I

- Yes
- No

School II

- * Yes
- * No

7. During the 3 years of CSR, my current principal served as the administrator:

- 1 year
- 2 years
- all 3 years

Appendix C - Focus Group Validation Instrument

Technical Assistance Providers

Technical Assistance Providers' Perceptions of the Impact of the Professional
Development Component of Comprehensive School Reform on the Mathematics
Achievement of Selected Third- and
Fifth-Grade Students in Virginia

Ice Breaker Questions:

Why did you decide to become involved with Comprehensive School Reform in
VA?

What are some of the byproducts of the CSR process?

If Comprehensive School Reform became headline news in tomorrow's newspaper,
what would be the title of this breaking news?

Key

Research Questions:

1. Is the Comprehensive School Reform process effective in improving the achievement in mathematics of third- and fifth-grade students?
2. Has the technical assistance provider impacted the professional development component of Comprehensive School Reform?
3. Has professional development impacted instruction in the classroom?
4. In what way has the professional development component of CSR impacted the instruction of mathematics of third- and fifth-grade students attending the 2003 CSR cohort of school schools in Virginia?

Comprehensive School Reform

As you are aware, Comprehensive School reform has 11 components that are to be implemented throughout the process. This study will focus on the professional development component of CSR and the impact of the technical assistance provider on student achievement in mathematics. Thank you for responding to the following questions:

1. How do you describe the role of the technical assistance provider?

Research Question	Clarity	Association
1 2 3 4	1 2 3 4 5	1 2 3 4 5

2. How often was professional development provided for teachers during the 1st year of CSR implementation?

Research Question	Clarity	Association
1 2 3 4	1 2 3 4 5	1 2 3 4 5

3. To what do you attribute enhanced student achievement in mathematics during the implementation of CSR?

Research Question	Clarity	Association
1 2 3 4	1 2 3 4 5	1 2 3 4 5

4. How often did you visit your assigned school during the 1st year of CSR implementation? Describe one of your visits with the staff—purpose, activity, discussion, etc.

Research Question	Clarity	Association
1 2 3 4	1 2 3 4 5	1 2 3 4 5

5. What types of professional development offerings were provided during the CSR process?

Research Question	Clarity	Association
1 2 3 4	1 2 3 4 5	1 2 3 4 5

6. What research-based strategies facilitated by the technical assistance provider impacted student achievement in mathematics?

Research Question	Clarity	Association
1 2 3 4	1 2 3 4 5	1 2 3 4 5

7. How often did you monitor instructional practices? What were some of your “look-fors” during mathematics instruction?

Research Question	Clarity	Association
1 2 3 4	1 2 3 4 5	1 2 3 4 5

8. How has the process of CSR impacted student achievement in mathematics?

Research Question				Clarity					Association				
1	2	3	4	1	2	3	4	5	1	2	3	4	5

Technical Assistance Provider Demographics: Please answer the following questions about your professional status and assigned school(s):

1. Indicate the highest degree you have received.
 - a. Bachelor’s Degree
 - b. Master’s Degree
 - c. Master’s Degree plus 30 hours
 - d. Educational Specialist or Certificate of Advanced Studies
 - e. Doctorate

2. How many years did you teach on the elementary level (K-5)?
 - 1-5
 - 6-10
 - 11-15
 - More than 15 years

3. How many years did you serve in the capacity of a school administrator?

4. How many years did you serve as a school division superintendent or assistant superintendent?

Comprehensive School Reform

5. The school(s) I served during CSR is (are) currently fully accredited based on the Virginia Standards of Learning (SOL).

School I

- Yes
- No

School II

- *Yes
- *No

6. The school(s) I served during CSR currently made Adequate Yearly Progress (AYP) as established by the No Child Left Behind legislation (NCLB)

School I

- Yes
- No

School II

- * Yes
- * No

7. During the 3 years of CSR, my current principal served as the administrator:
- 1 year
 - 2 years
 - all 3years

Comprehensive School Reform

Appendix D - Principal's Letter and Permission Form

February 11, 2007

Dear (Principal's Name),

My name is Vatará Slade and I am a doctoral student at Virginia Polytechnic Institute and State University in Blacksburg, Virginia. I am also an elementary school principal with Hampton City Schools in Hampton, Virginia.

This letter is to invite you to participate in an interview to explore the impact of the professional development component of Comprehensive School Reform (CSR) on the mathematics achievement of third- and fifth-grade students whose schools participated with the 2003 cohort of CSR. Due to the heightened accountability of student achievement mandated by the Virginia Standards of Learning and the federal No Child Left Behind legislation, Comprehensive School Reform has become one avenue to assist Title I schools not meeting the SOL benchmarks established by the Commonwealth and the NCLB criteria. The study will involve approximately 80 participants to include teachers, principals, and technical assistance providers.

The researcher will ask approximately 11 questions related to CSR and 9 questions about your school and professional status. The interview will last approximately 30 to 45 minutes and will take place by telephone or in person during a time that will be convenient for you.

Your superintendent has given me permission to conduct this study. Thus, your input will provide valuable information and assistance to other educators desiring to implement a process such as CSR that may impact student achievement at their individual schools.

With your permission, the interview will be audio taped and transcribed by a stenographer. All transcriptions will be secured, coded, and stored by the researcher. Although direct quotes will be included in the report, your name will not be included in the study and all data will be reported in a summative manner. Also, no school district or specific school will be identified in the study. The tapes will remain secured in my possession and destroyed upon the completion of the study.

Again, all responses will be strictly confidential and your name will not be associated with any report of the study. A summary of findings will be provided upon your request. I will contact you by Thursday, February 15, 2007 to schedule a convenient date and time for the interview. If you have any questions or concerns, please contact me at vslade@sbo.hampton.k12.va.us or call 757-766-5250.

Thank you in advance for your assistance in this study. Your participation will be greatly appreciated.

Sincerely,

Vatará C. Slade
Doctoral Student

Principal's Invitation to Participate in a Study
The Impact of the Professional Development Component of Comprehensive School
Reform on the Mathematics Achievement of
Selected Third- and Fifth-Grade Students in Virginia

Permission form Response

_____ I will participate in the study.

_____ I do not wish to participate in the study.

Principal's Signature

Date

CSR School

Email Address

Appendix E - Principal Interview Questions

Principals' Perceptions of the Impact of the Professional Development Component of
Comprehensive School Reform on the Mathematics Achievement of Selected
Third- and Fifth-Grade Students in Virginia

Ice Breaker Questions:

- How did your school staff decide to apply for the competitive grant of Comprehensive School Reform?
- What are some of the byproducts of your school's participation in the CSR process?
- Your school will make breaking news in tomorrow's newspaper; what will be the headline?

Key

Research Questions:

1. Is the Comprehensive School Reform process effective in improving the achievement in mathematics of third- and fifth-grade students?
2. Has the technical assistance provider impacted the professional development component of Comprehensive School Reform?
3. Has professional development impacted instruction in the classroom?
4. In what way has the professional development component of CSR impacted the instruction of mathematics of third- and fifth-students attending the 2003 CSR cohort of schools in Virginia?

As you are aware, Comprehensive School reform has 11 components that are to be implemented throughout the process. This study will focus on the professional development component of CSR and the impact of the technical assistance provider on student achievement in mathematics. Thank you for responding to the following questions:

Comprehensive School Reform

1. How has the training your teachers received in mathematics impacted instruction in the classroom?

Research Question	Clarity	Association
1 2 3 4	1 2 3 4 5	1 2 3 4 5

2. How has the technical assistance provider helped your school during the implementation of Comprehensive School Reform (CSR)?

Research Question	Clarity	Association
1 2 3 4	1 2 3 4 5	1 2 3 4 5

3. What strategies learned from professional development have impacted instruction in mathematics?

Research Question	Clarity	Association
1 2 3 4	1 2 3 4 5	1 2 3 4 5

4. How has the process of CSR impacted student achievement in mathematics?

Research Question	Clarity	Association
1 2 3 4	1 2 3 4 5	1 2 3 4 5

5. How often do you monitor instructional practices teachers have learned from professional development?

Research Question	Clarity	Association
1 2 3 4	1 2 3 4 5	1 2 3 4 5

6. In what ways has professional development influenced the instruction of mathematics?

Research Question	Clarity	Association
1 2 3 4	1 2 3 4 5	1 2 3 4 5

7. In what ways did the technical assistance provider support the implementation of professional development?

Research Question	Clarity	Association
1 2 3 4	1 2 3 4 5	1 2 3 4 5

8. How has professional development enhanced mathematics instruction?

Research Question	Clarity	Association
1 2 3 4	1 2 3 4 5	1 2 3 4 5

9. Did student achievement in mathematics improve during the implementation of CSR? If yes, what are some of the contributing factors?

Research Question	Clarity	Association
1 2 3 4	1 2 3 4 5	1 2 3 4 5

10. In what way has CSR impacted mathematics instruction?

Research Question	Clarity	Association
1 2 3 4	1 2 3 4 5	1 2 3 4 5

11. How valuable was the contribution of the technical assistance provider? Describe a typical visit with your staff—purpose, activity, discussion, etc.

Research Question	Clarity	Association
1 2 3 4	1 2 3 4 5	1 2 3 4 5

12. Describe the types of professional development your teachers have received during the past 3 years of CSR implementation.

Research Question	Clarity	Association
1 2 3 4	1 2 3 4 5	1 2 3 4 5

Principal Demographics: Please answer the following questions about your school and professional status.

1. During the 3 years of CSR, how many years did you serve as the administrator?
 - 1 year
 - 2 years
 - all 3years

2. Total years as an administrator
 - 0
 - 1-5
 - 6-10
 - 11-15
 - More than 15 years

3. How many years did you teach?
 - 0
 - 1-5
 - 6-10
 - 11-15
 - More than 15 years

4. Indicate the highest degree you have received.
 - Bachelor's Degree
 - Master's Degree
 - Master's Degree plus 30 hours
 - Educational Specialist or Certificate of Advanced Studies
 - Doctorate

5. Which of the following best describes the community your school serves?
 - Urban
 - Suburban
 - Rural

Comprehensive School Reform

6. Which of the following best describes the size of your school district?
 - 0-4999
 - 5,000-9999
 - 10,000-19,999
 - 20,000-29,999
 - 30,000 +

7. Of the following, what grade levels have you taught?
 - a. Elementary

 - b. Middle

 - c. High School

8. Is your school currently fully accredited based on the Virginia Standards of Learning (SOL)?
 - Yes
 - No

9. Did your school make Adequate Yearly Progress (AYP) as established by the No Child Left Behind legislation (NCLB)?
 - Yes
 - No

Appendix F - Validation Instrument: Principal Interview

Principals' Perceptions of the Impact of the Professional Development Component of
Comprehensive School Reform on the Mathematics Achievement of Selected
Third- and Fifth-Grade Students in Virginia

Ice Breaker Questions:

- How did your school staff decide to apply for the competitive grant of Comprehensive School Reform?
- What are some of the byproducts of your school's participation in the CSR process?
- Your school will make breaking news in tomorrow's newspaper; what will be the headline?

Key

Research Questions:

1. Is the Comprehensive School Reform process effective in improving the achievement in mathematics of third- and fifth-grade students?
2. Has the technical assistance provider impacted the professional development component of Comprehensive School Reform?
3. Has professional development impacted instruction in the classroom?
4. In what way has the professional development component of CSR impacted the instruction of mathematics of third- and fifth-students attending the 2003 CSR cohort of schools in Virginia?

As you are aware, Comprehensive School reform has 11 components that are to be implemented throughout the process. This study will focus on the professional development component of CSR and the impact of the technical assistance provider on student achievement in mathematics. Thank you for responding to the following questions:

Comprehensive School Reform

1. How has the training your teachers received in mathematics impacted instruction in the classroom?

Research Question	Clarity	Association
1 2 3 4	1 2 3 4 5	1 2 3 4 5

2. How has the technical assistance provider helped your school during the implementation of Comprehensive School Reform (CSR)?

Research Question	Clarity	Association
1 2 3 4	1 2 3 4 5	1 2 3 4 5

3. What strategies learned from professional development have impacted instruction in mathematics?

Research Question	Clarity	Association
1 2 3 4	1 2 3 4 5	1 2 3 4 5

4. How has the process of CSR impacted student achievement in mathematics?

Research Question	Clarity	Association
1 2 3 4	1 2 3 4 5	1 2 3 4 5

5. How often do you monitor instructional practices teachers have learned from professional development?

Research Question	Clarity	Association
1 2 3 4	1 2 3 4 5	1 2 3 4 5

6. In what ways has professional development influenced the instruction of mathematics?

Research Question	Clarity	Association
1 2 3 4	1 2 3 4 5	1 2 3 4 5

7. In what ways did the technical assistance provider support the implementation of professional development?

Research Question	Clarity	Association
1 2 3 4	1 2 3 4 5	1 2 3 4 5

8. How has professional development enhanced mathematics instruction?

Research Question	Clarity	Association
1 2 3 4	1 2 3 4 5	1 2 3 4 5

Comprehensive School Reform

9. Did student achievement in mathematics improve during the implementation of CSR? If yes, what are some of the contributing factors?

Research Question	Clarity	Association
1 2 3 4	1 2 3 4 5	1 2 3 4 5

10. In what way has CSR impacted mathematics instruction?

Research Question	Clarity	Association
1 2 3 4	1 2 3 4 5	1 2 3 4 5

11. How valuable was the contribution of the technical assistance provider?
Describe a typical visit with your staff—purpose, activity, discussion, etc.

Research Question	Clarity	Association
1 2 3 4	1 2 3 4 5	1 2 3 4 5

12. Describe the types of professional development your teachers have received during the past 3 years of CSR implementation.

Research Question	Clarity	Association
1 2 3 4	1 2 3 4 5	1 2 3 4 5

Principal Demographics: Please answer the following questions about your school and professional status.

1. During the 3 years of CSR, how many years did you serve as the administrator?
 - 1 year
 - 2 years
 - all 3years

2. Total years as an administrator
 - 0
 - 1-5
 - 6-10
 - 11-15
 - More than 15 years

3. How many years did you teach?
 - 0
 - 1-5
 - 6-10
 - 11-15
 - More than 15 years

4. Indicate the highest degree you have received.
 - Bachelor's Degree
 - Master's Degree
 - Master's Degree plus 30 hours
 - Educational Specialist or Certificate of Advanced Studies
 - Doctorate

5. Which of the following best describes the community your school serves?
 - Urban
 - Suburban
 - Rural

6. Which of the following best describes the size of your school district?
 - 0-4999
 - 5,000-9999
 - 10,000-19,999
 - 20,000-29,999
 - 30,000 +

7. Of the following, what grade levels have you taught?
 - a. Elementary

 - b. Middle

 - c. High School

8. Is your school currently fully accredited based on the Virginia Standards of Learning (SOL)?
 - Yes
 - No

9. Did your school make Adequate Yearly Progress (AYP) as established by the No Child Left Behind legislation (NCLB)?
 - Yes
 - No

Appendix G - Teacher's Letter and Permission Form

January 10, 2007

Third- or Fifth-Grade Teacher
(Name of School)

Dear Educator:

Teachers of Title I schools from across the Commonwealth of Virginia are concerned about accountability and mathematics achievement during the implementation of Comprehensive School Reform.

As a doctoral student in Educational Leadership and Policy Studies at Virginia Polytechnic Institute and State University, I invite you to participate in a survey regarding the impact of Comprehensive School Reform on student achievement in mathematics.

This study will include principals, teachers, and technical assistance providers from the 2003 Comprehensive School Reform cohort. You have been selected based on your school's participation in the 2003 CSR cohort. Your responses will be strictly confidential and coded anonymously; no individual school or participant will be named in any report of this research.

Your superintendent has given me permission to conduct this study. Thus, your input will provide valuable information and assistance to other educators desiring to implement a process such as CSR that may impact student achievement at their individual schools. Please complete the enclosed survey that will provide information relating to the professional development component of Comprehensive School Reform and its impact on student achievement in mathematics.

If you have any questions or concerns, please contact me at vslade@sbo.hampton.k12.va.us or 757-766-5250.

Realizing how busy you are during the year, please know how much I value your time and professional responses.

Sincerely,

Vatara C. Slade
Doctoral Candidate

Comprehensive School Reform

Teacher's Invitation to Participate in a Study
The Impact of the Professional Development Component of Comprehensive School
Reform on the Mathematics Achievement of
Selected Third- and Fifth-Grade Students in Virginia

Permission Form Response

_____ I will participate in the study.

_____ I do not wish to participate in the study.

Teacher's Signature

Teacher's School

Teacher's Email Address

Appendix H - Teacher Survey

Teachers' Perceptions of the Impact of the Professional Development Component of Comprehensive School Reform on the Mathematics Achievement of Selected Third- and Fifth-Grade Students in Virginia

Research Questions:

1. Is the Comprehensive School Reform process effective in improving the achievement in mathematics of third- and fifth-grade students?
2. Has the technical assistance provider impacted the professional development component of Comprehensive School Reform?
3. Has professional development impacted instruction in the classroom?
4. In what way has the professional development component of CSR impacted the instruction of mathematics of third- and fifth-grade students attending the 2003 CSR cohort of schools in Virginia?

Please choose one or more responses as indicated for each question.

1. How many minutes do your students spend daily in mathematics instruction?
 - 0 -30 minutes
 - 31 -45 minutes
 - 46 -60 minutes
 - 61- 90 minutes
2. How often during the process of Comprehensive School Reform was professional development provided during the **1st year of implementation**?
 - 0 to once a month
 - Twice a month
 - Once each quarter
 - Once a semester
3. What specific professional development activities were provided during the CSR process?
 - Mathematics course (graduate level)
 - Interactive Notebooks
 - Quality Questioning strategies
 - Marzano strategies
 - Other

4. What types of professional development offerings were provided during the CSR process?
 - Site based (team meetings, central office staff)
 - Conferences
 - Workshops
 - Mentoring
 - Other

5. How often did the technical assistance provider visit your school during the 1st year of CSR implementation?
 - 0 times a week
 - Once to twice weekly
 - Once every other week or twice per month
 - Once a month

6. In what ways did the technical assistance provider support the implementation of professional development?
 - Facilitated professional development activities
 - Monitored implementation of strategies via walkthroughs
 - Assisted the school in assessing needs
 - Identified resources
 - Coached the leadership team
 - All of the above

7. Has the technical assistance provider impacted professional development during CSR?
 - Yes
 - No

8. Based on the SOL pass rate during the implementation of CSR, did the mathematics achievement of third- and fifth-grade students increase?
 - Yes
 - No

9. Did the implementation of CSR contribute to effective mathematics instruction in the classroom?
 - Yes
 - No

10. What factors contributed to increased student achievement in mathematics during CSR?

- Professional development to support instruction
- Curriculum alignment with the Standards of Learning
- Use of time and school scheduling practices
- Use of data in making instructional and planning decisions

11. How has the process of CSR impacted student achievement in mathematics?

- Fostered collaboration among teachers
- Provided teachers with a plan to collect and analyze data that focused instruction
- Assisted teachers with identifying resources and appropriate interventions

12. In what way has CSR impacted mathematics instruction?

- School Leadership Teams (SLT) completed and analyzed a gap analysis
- Teachers, administrators, TAPs completed “walkthroughs” to observe implementation of strategies and provide feedback
- Additional resources were provided (manipulatives, materials) for students to use during the instruction and learning process

13. How have teachers’ instructional practices impacted student achievement in math?

- Research-based strategies are implemented
- Best practice strategies are monitored
- Teachers receive feedback on implementation

14. How has CSR impacted the teaching and learning of mathematics for staff and students?

- Provides a shared planning time for each grade level
- Implements quarterly benchmark assessments
- Provides enhanced professional development
- Encourages horizontal and vertical teaming across grade levels

15. How has CSR affected the teaching of mathematics? Check all that apply.

- Provides monitoring of strategies by administrators, TAPs, and peers
- Provides a focus for data analysis of quarterly mathematics assessments
- Provides differentiation in instructional strategies

Teacher Demographics: Please answer the following questions about your school and professional status.

1. Indicate the highest degree you have received.

- Bachelor's Degree
- Master's Degree
- Master's Degree plus 30 hours
- Educational Specialist or Certificate of Advanced Studies
- Doctorate

2. Which of the following best describes the community your school serves?

- Urban
- Suburban
- Rural

3. Which of the following best describes the size of your school district?

- 0-4999
- 5,000-9999
- 10,000-19,999
- 20,000-29,999
- 30,000 +

4. What grade level do you teach?

- Third grade
- Fifth grade

5. How many years have you taught on the elementary level (K-5)

- 1-5
- 6-10
- 11-15
- More than 15 years

Comprehensive School Reform

6. Based on the Virginia Standards of Learning (SOL) criteria, my school is
 - Fully Accredited
 - Accreditation denied

7. My school made Adequate Yearly Progress (AYP) as established by the No Child Left Behind legislation (NCLB) during the 2005-2006 school year.
 - Yes
 - No

8. During the 3 years of CSR, my current principal served as the administrator:
 - 1 year
 - 2 years
 - 3years
 - New to the school this year

Appendix I - Teacher Survey Validation Instrument

Teachers' Perceptions of the Impact of the Professional Development Component of Comprehensive School Reform on the Mathematics Achievement of Selected Third- and Fifth-Grade Students in Virginia

Key

Research Questions:

1. Is the Comprehensive School Reform process effective in improving the achievement in mathematics of third- and fifth-grade students?
2. Has the technical assistance provider impacted the professional development component of Comprehensive School Reform?
3. Has professional development impacted instruction in the classroom?
4. In what way has the professional development component of CSR impacted the instruction of mathematics of third- and fifth-grade students attending the 2003 CSR cohort of schools in Virginia?

Please choose one or more responses as indicated for each question.

3. How many minutes do your students spend daily in mathematics instruction?
 - 0-30 minutes
 - 31 -45 minutes
 - 46 -60 minutes
 - 61- 90 minutes

Research Question				Clarity					Association				
1	2	3	4	1	2	3	4	5	1	2	3	4	5

4. How often during the process of Comprehensive School Reform was professional development provided during the **1st year of implementation**?
 - 0 to once a month
 - Twice a month
 - Once each quarter
 - Once a semester

Research Question				Clarity					Association				
1	2	3	4	1	2	3	4	5	1	2	3	4	5

Comprehensive School Reform

3. What specific professional development activities were provided during the CSR process? (Check all that apply)

- Mathematics course (graduate level)
- Interactive Notebooks
- Quality Questioning strategies
- Marzano strategies
- Other

Research Question				Clarity					Association				
1	2	3	4	1	2	3	4	5	1	2	3	4	5

4. What types of professional development offerings were provided during the CSR process?

- Site based (team meetings, central office staff)
- Conferences
- Workshops
- Mentoring
- other

Research Question				Clarity					Association				
1	2	3	4	1	2	3	4	5	1	2	3	4	5

5. How often did the technical assistance provider visit your school during the 1st year of CSR implementation?

- 0 times a week
- Once to twice weekly
- Once every other week or twice per month
- Once a month

Research Question				Clarity					Association				
1	2	3	4	1	2	3	4	5	1	2	3	4	5

6. In what ways did the technical assistance provider support the implementation of professional development?

- Facilitated professional development activities
- Monitored implementation of strategies via walkthroughs
- Assisted the school in assessing needs
- Identified resources
- Coached the leadership team
- All of the above

Research Question				Clarity					Association				
1	2	3	4	1	2	3	4	5	1	2	3	4	5

7. Has the technical assistance provider impacted professional development during CSR?

- Yes
- No

Research Question				Clarity					Association				
1	2	3	4	1	2	3	4	5	1	2	3	4	5

8. Based on the SOL pass rate during the implementation of CSR, did the mathematics achievement of third- and fifth-grade students increase?

- Yes
- No

Research Question				Clarity					Association				
1	2	3	4	1	2	3	4	5	1	2	3	4	5

9. Did the implementation of CSR contribute to effective mathematics instruction in the classroom?

- Yes
- No

Research Question				Clarity					Association				
1	2	3	4	1	2	3	4	5	1	2	3	4	5

10. What factors contributed to increased student achievement in mathematics during CSR? (Check all that apply)

- Professional development to support instruction
- Curriculum alignment with the Standards of Learning
- Use of time and school scheduling practices
- Use of data in making instructional and planning decisions

Research Question				Clarity					Association				
1	2	3	4	1	2	3	4	5	1	2	3	4	5

11. How has the process of CSR impacted student achievement in mathematics?
(Check all that apply)

- Fostered collaboration among teachers
- Provided teachers with a plan to collect and analyze data that focused instruction
- Assisted teachers with identifying resources and appropriate interventions

Research Question				Clarity					Association				
1	2	3	4	1	2	3	4	5	1	2	3	4	5

12. In what way has CSR impacted mathematics instruction? (Check all that apply)

- School Leadership Teams (SLT) completed and analyzed a gap analysis
- Teachers, administrators, TAPs completed “walkthroughs” to observe implementation of strategies and provide feedback
- Additional resources were provided (manipulatives, materials) for students to use during the instruction and learning process

Research Question				Clarity					Association				
1	2	3	4	1	2	3	4	5	1	2	3	4	5

13. How have teachers’ instructional practices impacted student achievement in math? (Check all that apply)

- Research-based strategies are implemented
- Best practice strategies are monitored
- Teachers receive feedback on implementation

Research Question				Clarity					Association				
1	2	3	4	1	2	3	4	5	1	2	3	4	5

14. How has CSR impacted the teaching and learning of mathematics for staff and students? (Check all that apply)

- Provides a shared planning time for each grade level
- Implements quarterly benchmark assessments
- Provides enhanced professional development
- Encourages horizontal and vertical teaming across grade levels

Research Question				Clarity					Association				
1	2	3	4	1	2	3	4	5	1	2	3	4	5

15. How has CSR affected the teaching of mathematics? (Check all that apply)

- Provides monitoring of strategies by administrators, TAPs, and peers
- Provides a focus for data analysis of quarterly mathematics assessments
- Provides differentiation in instructional strategies

Research Question				Clarity					Association				
1	2	3	4	1	2	3	4	5	1	2	3	4	5

Teacher Demographics: Please answer the following questions about your school and professional status.

1. Indicate the highest degree you have received.
 - Bachelor’s Degree
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 - Master’s Degree plus 30 hours
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 - Doctorate
2. Which of the following best describes the community your school serves?
 - Urban
 - Suburban
 - Rural
3. Which of the following best describes the size of your school district?
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 - 5,000-9999
 - 10,000-19,999
 - 20,000-29,999
 - 30,000 +
4. What grade level do you teach?

Comprehensive School Reform

- Third grade
 - Fifth grade
5. How many years have you taught on the elementary level (K-5)
- 1-5
 - 6-10
 - 11-15
 - More than 15 years
6. Based on the Virginia Standards of Learning (SOL) criteria, my school is
- Fully Accredited
 - Accreditation denied
7. My school made Adequate Yearly Progress (AYP) as established by the No Child Left Behind legislation (NCLB) during the 2005-2006 school year.
- Yes
 - No
8. During the 3 years of CSR, my current principal served as the administrator:
- 1 year
 - 2 years
 - 3years
 - New to the school this year

Appendix J - Superintendent's Letter

January 10, 2006

Dear Superintendent:

As I collect information for my dissertation in Educational Leadership and Policy Studies at Virginia Polytechnic Institute and State University, I would like to invite your principals and teachers to participate in a survey about the impact of Comprehensive School Reform on student achievement in mathematics.

This study involves the teachers and principals that participated in the 2003 cohort of Comprehensive School Reform. They have significant information about the program's impact on student achievement. Their responses will be strictly confidential, all replies are anonymous, and no school or individual will be identified in this study. All data will be summarized and reported in a nonspecific manner.

The following school(s) from your division will be invited to participate in the study:

(Insert names of schools)

Please specify below if permission will be granted for your principals and teachers to participate in the survey by completing the Permission to Participate form below. After completing the bottom portion of this form, please return it in the self-addressed stamped envelope provided.

If you have any questions or concerns, please contact me at vslade@sbo.hampton.k12.va.us or call 757-766-5250.

Your response will be greatly appreciated.

Sincerely,

Vatara C. Slade
Doctoral Candidate

Permission to Participate

Permission to participate in the research study The Impact of the Professional Development Component of Comprehensive School Reform on the Mathematics Achievement of Third- and Fifth-Grade Students in Virginia (2003 CSR Cohort).

(Please place a check \checkmark beside your response)

_____ Permission is granted for teachers and principals to participate

_____ Permission is not granted for teachers and principals to participate

from the

School District.

Superintendent's Signature

Date

Appendix K – Instructional Review Board Approval Letter



Office of Research Compliance
Institutional Review Board
1880 Pratt Drive (0497)
Blacksburg, Virginia 24061
540/231-4991 Fax: 540/231-0959
E-mail: moored@vt.edu
www.irb.vt.edu

FVA000000007 21 expires 7/2007
IRB # is IRB:00000657

DATE: January 8, 2007

MEMORANDUM

TO: Travis W. Twiford
Vatara Slade

Approval date: 1/8/2007
Continuing Review Due Date: 12/24/2007
Expiration Date: 1/7/2008

FROM: David M. Moore

SUBJECT: **IRB Expedited Approval:** "The Impact of the Professional Development Component of Comprehensive School Reform on the Mathematics Achievement of Selected Third and Fifth Grade Students in Virginia", IRB # 07-009

This memo is regarding the above-mentioned protocol. The proposed research is eligible for expedited review according to the specifications authorized by 45 CFR 46.110 and 21 CFR 56.110. As Chair of the Virginia Tech Institutional Review Board, I have granted approval to the study for a period of 12 months, effective January 8, 2007.

As an investigator of human subjects, your responsibilities include the following:

1. Report promptly proposed changes in previously approved human subject research activities to the IRB, including changes to your study forms, procedures and investigators, regardless of how minor. The proposed changes must not be initiated without IRB review and approval, except where necessary to eliminate apparent immediate hazards to the subjects.
2. Report promptly to the IRB any injuries or other unanticipated or adverse events involving risks or harms to human research subjects or others.
3. Report promptly to the IRB of the study's closing (i.e., data collecting and data analysis complete at Virginia Tech). If the study is to continue past the expiration date (listed above), investigators must submit a request for continuing review prior to the continuing review due date (listed above). It is the researcher's responsibility to obtain re-approval from the IRB before the study's expiration date.
4. If re-approval is not obtained (unless the study has been reported to the IRB as closed) prior to the expiration date, all activities involving human subjects and data analysis must cease immediately, except where necessary to eliminate apparent immediate hazards to the subjects.

Important:

If you are conducting **federally funded non-exempt research**, this approval letter must state that the IRB has compared the OSP grant application and IRB application and found the documents to be consistent. Otherwise, this approval letter is invalid for OSP to release funds. Visit our website at <http://www.irb.vt.edu/pages/newstudy.htm#OSP> for further information.

cc: File

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VIRGINIA POLYTECHNIC INSTITUTE UNIVERSITY AND STATE UNIVERSITY

An equal opportunity, affirmative action institution

Appendix L - Protocol Script

Good Morning. Thank you for agreeing to participate in this (focus group/interview). It should take approximately (insert number) minutes. The purpose of this (focus group/interview) is for you to talk about the Professional Development component of the Comprehensive School Reform process. I will be tape recording this to make sure that I don't misquote you, and that you have my undivided attention as you respond to each question. Your responses will be strictly confidential; they will be transcribed and coded anonymously and will not include your name. No individual school will be named in the report of this research.

This study will include principals, teachers, and technical assistance providers from the 2003 Comprehensive School Reform cohort. You have been selected based on your participation as a(n) (administrator/technical assistance provider) in the 2003 CSR cohort. I have (insert number) questions that I will be asking. These questions pertain to professional development during the CSR process, the technical assistance provider, and mathematics or language arts achievement based on the SOL scores of 3rd and 5th grade students attending your school. These questions will be followed with (insert number) short-answer (administrator/technical assistance provider) demographic questions.

Please feel free at any time to discuss question(s) in more detail. As stated earlier, the main purpose of this interview is for you to talk about the PD component of CSR and how it impacted instruction and achievement. You may feel free to withdraw from the interview at anytime. You may also request during or at the end of the interview to take out statements you may have made. Do you have any questions? Let's begin.

Appendix M – Curriculum Vitae

Vatara Copeland Slade

101 North Lakeland Crescent
Yorktown, VA 23693
vslade@sbo.hampton.k12.va.us

Education

Doctoral Candidate

Virginia Polytechnic Institute and State University, 2007

Master of Education

Old Dominion University, 1992

Danforth Scholar

Bachelor of Arts

North Carolina Central University, 1976

Professional Experiences

Elementary School Principal

Hampton City Schools

Bryan Elementary School, 1996-2002

Machen Elementary School, 2002-present

Elementary School Assistant Principal

York County School Division

Tabb Elementary School 1993-1996

Elementary Teacher

York County School Division, 1976-1996

Educational Leadership Institute Fellow 1997

The College of William and Mary

Diversity and Race Relations Seminar 1999

University of Virginia, Participant and Presenter

Presentations

Virginia Association of Elementary School Principals (VAESP) 2005

Virginia Association for Supervision and Curriculum Development (VASCD) 2004

Hampton City Schools Leadership Academy (2004)

Commonwealth of Virginia Department of Education (2003)

Standards of Learning Community Presentations (annually)

School Community Workshop (annually)

Educational Organizations **National Association of Elementary School Principals-NAESP**
Virginia Association of Elementary School Principals –VAESP
Hampton Association of Elementary School Principals -HAESP
President (2002-2004)
Virginia Association for Supervision and Curriculum and Development (VASCD) Board Member, Membership Chair
The Hampton Council of PTA/PTSA (Lifetime Member)
National Youth Sports Program, Hampton University

Recognitions **Parent Involvement Principal of Excellence Award 2005**
Hampton Council of PTA/PTSA
Virginia PTA Honorary Lifetime Membership 2005
Hampton Calendar Workteam 2005-2006
National Title I Distinguished School Award 2000
Bryan Elementary School
Reading Excellence Act Grant Award 2001
Bryan Elementary School
Comprehensive School Reform Grant Award 2003
Machen Elementary School

Personal **Greeter Ministry**
Sixth Mount Zion Baptist Temple
Active Member
Delta Sigma Theta Sorority, Incorporated
Board Member
National Youth Sports Program (NYSP)

Education is for improving the lives of others and for leaving your community and world better than you found it.

*- Marian Wright Edelman
American lawyer and social activist*

