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Fixing the Hole in the Pipe : Moving Beyond Prereferral Toward Changing the System

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Andrews University

School of Education

FIXING THE HOLE IN THE PIPE: MOVING BEYOND PREREFERRAL TOWARD CHANGING THE SYSTEM

A Dissertation

Presented in Partial Fulfillment

of the Requirements for the Degree

Doctor of Philosophy

by

Jean T. Papandrea

March 2003

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ABSTRACT

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by

Jean T. Papandrea

Chair: James A. Tucker

ABSTRACT OF GRADUATE STUDENT RESEARCH

Dissertation

Andrews University

School of Education

Title: FIXING THE HOLE IN THE PIPE: MOVING BEYOND PREREFERRAL TOWARD CHANGING THE SYSTEM

Name of researcher: Jean T. Papandrea

Name and degree of faculty chair: James A. Tucker, Ph.D.

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Problem

Too many students in school districts across the nation fail and are inappropriately referred for special education classification and services, when, in reality, they are not disabled, but are casualties of systems that do not have appropriate instructional intervention and support systems in place. This study explores the outcomes of an Instructional Support system called the 7 SHARE Initiative. Essential system components are: (a) Instructional Support Teachers (ISTs) in each school, (b) Curriculum-Based Assessment as developed by Edward E. Gickling, (c) direct instruction of strategies to students, and (d) modeling strategies for teachers to implement in class-wide applications.

Method

A fourth generation (Guba & Lincoln, 1989), utilization-focused (Patton, 1997) educational program evaluation that employs an insider/outsider research team (Bartunek & Louis, 1996) was used. Qualitative and quantitative data were cross-analyzed to determine the impact of various interventions on outcomes achieved by 143 students from eight elementary schools, served by six Instructional Support Teachers (ISTs).

Results

The majority (76%) of students served improved academically and were prevented from being referred for special education services. The three interventions most connected with student improvement, in order of degree of impact were (a) strategies taught to the student by the IST, (b) 10 or more sessions of direct instruction in one-on-one sessions by the IST, and (c) modeling and in-classroom support for the transfer of the strategies by classroom teachers to class-wide applications. Special education referral and classification efficiency data revealed a 45% reduction in referrals in the first year, and a 42% reduction in the second year. The work of the IST is indicated as the system intervention responsible for this reduction. Classification efficiency rates improved from 66.08% to 82.08% efficiency over the first 2 years of implementation.

Conclusions

Instructional Support in the 7 SHARE Initiative has created the conditions for students to improve academically and to avoid being inappropriately referred to special education. The primary factor related to these results was the intervention into the

system of an IST. Recommendations are made for schools seeking to initiate a system of academic intervention to prevent student failure.

DEDICATION

I dedicate this work to those who made it possible: to my God who deserves all the glory, to my mother Alice who taught me to "go for it," to my husband who is my encourager and supporter, to my son who insists we not take ourselves too seriously, to my advisor Jim Tucker whose inspiration set me on this course, to Ed Gickling who works magic teaching children to see themselves as readers, and to the ISTs whose dedication to teaching has made possible the student success stories told herein.

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CHAPTER 1

SYSTEMS METAPHOR

There is a business and industry metaphor that illustrates the necessity of systems-thinking. An organizational development consultant brought this story to the Schuyler-Chemung-Tioga Board of Cooperative Educational Services (SCT BOCES) organization, and as is true of folklores, the story has been embellished with each telling. It is the metaphor of the problem of sand in the oil. This is how the story goes.

Workers at an oil refinery, the end of the line of a cross-continental pipeline, begin to notice increasing amounts of sand appearing in the oil. In discussing the problem, there emerge two kinds of thinkers, whose thinking is revealed in the following scenarios.

Scenario One. The answer to the sand in the oil is simple: To solve the problem of sand in the oil, simply place a filter in the pipeline to remove the sand. Following this line of thinking, the company has a special filter designed, tested, and perfected. The filter is put in place, and sure enough, the problem seems to be solved. The oil runs clear again.

Soon, however, the filter becomes clogged, and the flow of oil is substantially decreased. What is the expedient answer? Hire a worker to clean the filter. The company hires and trains a filter-cleaning specialist, who takes his job very seriously, and develops maintenance schedules and protocols. The oil again runs clean.

Cleaning filters is not interesting and engaging work, however, and the filter-cleaning specialist begins to lose his original enthusiasm for the job, and thus his effectiveness. In addition, the protocols and schedules begin to be insufficient, as the amount of sand finding its way into the pipeline has increased. What is the expedient answer? Hire a supervisor to monitor and improve the effectiveness of the filter-cleaning specialist, and to direct the development of new processes and procedures. This solution, too, works for a while, and the oil again runs clean.

The effectiveness and efficiency of this process must, of course, be documented and assessed in order to justify the expense of the filtering division of the company. What is the expedient answer? Hire a quality control manager. And so the story of expedient answers goes.

Scenario Two. The answer to the problem of sand in the oil is not simple, and cannot be solved by individuals working in isolation. The company is founded on the principals of continuous improvement and participatory management. Therefore, the answer begins by bringing employees together to participate in a problem-solving process.

The team gathers information from many sources: from workers at the original drilling plant, from geologists who know the makeup of the land through which the pipeline flows, from the designers and manufacturers of the pipeline, and from the workers who first noticed the problem: those who work at the final destination, the processing plant. Using a clearly defined problem-solving process that all employees have learned, the team sets out to discover the root cause of the problem of sand in the oil. They ask and continue to ask, "Why is there sand in the oil?" By bringing the right

people together, and by relentlessly asking "why," the team arrives at consensus as to the root cause. The geologist's research uncovered a shift in the shale plates at a remote location between the drilling site and the refinery, which had caused a hole in the oil pipeline. With the root cause of the problem discovered, the solution is clear: Repair the pipeline using materials designed to withstand future shifts in the surrounding rock. The team develops an action plan, including a schedule and process for evaluating its success, communicates the plan to all who need to be involved, and implements it. The problem is solved.

Problems in the educational system and in student achievement have root causes, also. And as in the metaphor of the hole in the oil pipeline, the solutions are found only by engaging in collaborative systems-thinking that includes root cause analysis. The 7 SHARE Initiative is an example of systems-thinking. 7 SHARE is the model of Instructional Support being implemented in seven school districts in New York State. The purpose of the initiative is to prevent student failure and inappropriate referrals to special education by intervening early with support for struggling students and their teachers. In this metaphor, student failure (at the extreme end measured by high rates of inappropriate referrals to special education) is the sand in the oil. The failure of the system to have processes to quickly and accurately assess the root cause of the student's academic struggles and intervene with appropriate instruction is the hole in the pipe. Continuing to rely on the deficit model of sorting, classifying, and labeling students is a filter. This study is the story of seven school districts that decided to search for and correct the hole in the pipe, rather than continuing to change filters. These are the stories of the students who benefited from the changed system.

Introduction

> I didn't really think I was that smart. . . . I wasn't that good at reading or math...First when I started reading a book I only went up to 25 words [per minute]. Then I got better at chunking and I went up to 139....It helped me read the book faster, and it doesn't sound like blah, blah, blah, blah. (John: 3rd-grade student, video-taped interview)

Systems-thinking requires honestly looking at data—not only results data, but intermediate outcomes data. In this era of high-stakes testing and data-driven decision-making in education, where we are held accountable for bottom-line results, it is vital that those of us charged with collecting, analyzing, publishing, and using data in making decisions about educational reform and about effective educational practices, measure more than end results. In the metaphor of the sand in the oil, the ineffective company measured only the end results: the quality of the oil at the end of the pipeline. Being concerned only with the end result rather than proactively taking intermediate measures along the way caused their problem-solving to go no further than end-of-the-process filters. Systems-thinking in education requires that we monitor intermediate measures of student performance along the way. To do so requires that we look into the classroom and individual students' performance. And we must put a high value on the narrative, qualitative data found in the work and words of individual students, as well as the testimonies and stories of their parents and their teachers.

These are data that do not lend themselves to testing for statistical significance, that do not make direct cause-effect links, and yet, these are data that do, indeed, inform us of the tangible, measurable effects of our educational reform efforts on improving the learning outcomes for individual students, on a day-to-day basis. When John can say that before instructional intervention he was able to read at 25 words per minute, that he

learned a strategy called "chunking" and then could read at 139 words per minute, without sounding like, "blah, blah, blah, blah," he tells us that for him instructional support is about far more than scores on state assessments and lowered special education referral rates (outcomes data).

Instructional support for John is about trusting us to continuously shine a spotlight on the teaching and learning process as he is experiencing it, on what he knows and can do, about what he needs, about learning alongside him specifically what strategies will help him to move forward, and about reflecting with him on what we have learned together and how we can use these specific strategies in the future: how John can use them and how we can teach them to the entire class as well.

There are hundreds of students like John in the seven school districts of the SCT BOCES, and in school districts across the nation. These are students who, without an instructional intervention, might continue to struggle and fail. Some will become inappropriate referrals to special education, referred to by Charles Hargis as "curriculum casualties" (1982, 1987), not students with real disabilities. They are considered inappropriately referred because the root cause of their struggle is not a learning disability, but rather our failure to accurately assess and instruct at the student's instructional level (Betts, 1946; Hargis, 1982; Hargis & Kronick, 1998) that has perpetuated the failure. Albert Brigance and Charles Hargis (1993) write that prolonged failure caused by "lock-step curriculum" (Betts, 1946; Hargis, 1982) and instruction at the frustrational level (Betts, 1946; Hargis, 1982) make up the vast majority of students classified with learning disabilities as well as those students who do not qualify but end up dropping out of school. Perpetuating this deficit model fails students and defies the

Individuals With Disabilities Education Act (IDEA) of 1997, which specifies, "In making a determination of eligibility . . . a child shall not be determined to be a child with a disability if the determinant factor for such determination is lack of instruction in reading or math or limited English proficiency" (IDEA, 1997, Sec. 614 [b][5]). The 7 SHARE Initiative, a model of Instructional Support, is a systems intervention that provides the means to discover and correct the "hole in the pipe" for students like John and for our educational system.

Background of the Problem

The seven component school districts of the SCT BOCES, like districts across the United States, have experienced an ever-increasing rise in the use of special education services, since the 1975 passage of Public Law 94-142, the Education for All Handicapped Children Act. In their attempts to both comply with the law, and to provide a quality education to students who qualify for special education services under federal and state regulations, school districts and the educational system as a whole have developed a dual educational system that has created many unintended consequences, and has not resulted in the full realization of the original intention of the 1975 law. The Congressional Committee Report of the 1997 Reauthorization of IDEA (IDEA, 1997) indicates that the 1975 law has been successful in a number of areas: providing access to public schools by a majority of the over 1 million children previously denied access, lowering the number of children with developmental disabilities in state institutions by 90%, tripling the number of young adults with disabilities who attend post-secondary education, and decreasing the number of young adults with disabilities in their 20s who are unemployed.

However, the report goes on to state that the promise of the law remains unfulfilled for too many students with disabilities, as indicated by high dropout rates, inappropriate placement of minority children and those with limited English proficiency, overall low expectations, "insufficient focus on applying replicable research on proven methods of teaching and learning" (IDEA, 1997, Section 601 [c][4]), and too great an emphasis on paperwork and process rather than on improving learning outcomes for students with disabilities. While the original law had as its goal the provision of a "free appropriate public education" (IDEA, 1997, Section 602 [8]), defined as "specially designed instruction" (IDEA, 1997, Section 602 [25]) for students with disabilities, delivered in the "least restrictive environment" (intended to mean primarily in general education settings) (IDEA, 1997, Section 601 [c][5]), what we developed instead was a highly specialized, sometimes clinical, completely separate, and not always parallel education for students with disabilities.

The unintended outcomes of separate systems include (a) isolation of both special education students and teachers, (b) an expert model that discourages collaborative relationships between general and special educators, (c) unacceptably low access to general education curriculum and achievement for the students served in special education, (d) a complex, burdensome and high-cost bureaucracy, (e) an increase in the number of categories under which students are classified, and the (f) skyrocketing escalation of numbers of students classified.

The U.S. Department of Education's Office of Special Education Services (OSEP), in Table 11-2 of its Twenty-First Annual Report to Congress in 1999, reported a 29.42% increase in special education enrollment, ages 6-21, over the 10-year period of

1989-1999 with New York State in the top quartile reporting a 49.85% increase in that same 10-year period. The SCT BOCES school districts had recorded a 13.2% increase in classifications from 1993-1998 to an average of 14.13% (Papandrea, 2000). The OSEP report indicates that enrollment in special education services has continued to rise nationally at a rate that exceeds both the general population and school enrollment.

The cost of special education has risen steadily, and at a rate faster than for public education as a whole (Wolman & Parrich, 1996, cited in Berman, Davis, Koufman-Frederick, & Urion, 2001) with the costs for individual children with disabilities at 2.28 times the average general education child expenditure in any state (Moore et al., 1988, cited in Berman et al., 2001). Although the 1997 reauthorization of IDEA contained the reaffirmation of the federal government to fund 40% of the excess cost of special education, the actual percentage covered since 1975 has ranged from 7%-12%, with the breakdown in 1994 cited as 7% federal, 53% state, and 40% local (Berman et al., 2001). A special education cost analysis conducted in Massachusetts by Berman et al. (2001) indicated that a large percentage of the special education costs being borne by local school districts are for a few high-cost students. An analysis conducted by a school district in the 7 SHARE Initiative indicated that "83.2% of the local cost can be attributed to 19 students in the high cost aid category" (McNamara, 2001, [p. 6]).

The resulting problem for local school districts has been that while numbers of students classified as eligible for special education services were rising, and costs were increasing, financial aid was not increased as promised, leaving the increasing burden on the local district. The SCT BOCES districts, like many across the nation, began in 1995 to examine their special education systems for efficiency and effectiveness. Specifically,

superintendents were seeking ways to reduce the referral rate to special education in order to contain, if not reduce, the special education expenditures. What the leaders of the 7 SHARE Initiative have discovered, however, is that getting to the root of the problem of the over-reliance on a separate special education system is the real need and the real challenge, moving us far beyond prereferral intervention toward a vision of high-quality instruction and schools that are continuously improving learning communities. Studying, analyzing, and addressing the root causes of student failure in general education is a work that needs to be done and offers one promise of really "fixing" the problem.

The Problem and Purpose of This Study

In 1995, school districts in the SCT BOCES region began an attempt to lower referrals to special education by developing a system of prereferral teams in schools, an approach also being taken by districts across the country (Bahr, 1994; Del'Homme, Kasari, Forness, & Bagley, 1996; Fuchs, Fuchs, & Bahr, 1990; Kovaleski, Tucker, & Stevens, 1996; Nelson, Smith, Taylor, Dodd, & Reavis, 1991; Safran & Safran, 1996). Since 1995 the districts have gathered and analyzed a great deal of data from multiple sources to evaluate the effectiveness of their efforts: intervention team data, student intervention data reported by Instructional Support Teachers (ISTs), student stories told by ISTs, teachers, parents, and students, an external program evaluation conducted by Syracuse University, and special education data reported by each school district. The data, however, have not been analyzed and synthesized to gain a coherent picture of its impact on individual students' achievement.

The purpose of this study is to do just that: to analyze and synthesize data from multiple sources into a cogent and cohesive picture, answering the question, "What is the impact of Instructional Support on individual students served by the 7 SHARE Initiative?" The context of the study is the systems change story of the 7 SHARE Initiative as it continues to unfold. There are many "players" in the 7 SHARE Initiative, as in any system, and each player has important roles and responsibilities in implementing the initiative, including participating in gathering and reporting data, both narrative and quantitative. In this study I detail the 7 SHARE systems model, focusing on the role and impact of one particular player: the Instructional Support Teacher (IST).

Research Question

In this study, I explore stories within a story: the stories of individual student achievement problems and interventions implemented, and stories revealed in a variety of data types from various sources, including those told by students, teachers, and parents. These stories will be explored within the context of the story of the educational reform effort know as the 7 SHARE Initiative. In this ex-post facto program-evaluation of an educational systems-change initiative, I detail the 7 SHARE Initiative reform effort as it is unfolding within the seven school districts of the Schuyler-Chemung-Tioga BOCES, analyze four types of data gathered as part of the evaluation, lifting from each source the data that answer the question, "What is the impact of Instructional Support on individual students served by the 7 SHARE Initiative?" and compare themes across the data sources. Using the business and industry metaphor of the hole-in-the-pipe dilemma, I explore what the data reveal about the impact of the initiative on students, and implications for educational systems changes needed to attain solutions to the problem of student failure –

solutions that fix the hole in the pipe, rather than merely adding filters.

Significance of the Study

Schools are structured around the expectation of grade-level performance (Gickling & Thompson, 2001; Hargis, 1997; Wallace & Graves, 1995), when in fact a more realistic expectation of variation in student performance at any given age is two-thirds chronological age (Cook & Clymer, 1962; Gickling & Thompson, 2001; Hargis, 1987, 1997). Over the past 2 years, I have conducted an informal verbal survey of teachers attending my staff development sessions in reading instruction, Curriculum-Based Assessment (CBA), co-teaching, and differentiated instruction. In every session, when teachers are presented with the rule of two-thirds chronological age and asked if it reflects what they see on a regular basis in their classrooms, every teacher, without exception, has said "yes." When asked how many of the students in their classrooms who fall within this normal range have been classified as learning disabled, every teacher, without exception, has said "many." When asked about the implications of this research on our current practice, one special education teacher replied, "All of my students should be declassified!" "These children, who are in fact the curriculum casualties or curriculum handicapped, would not have acquired their various labels had the curriculum been adjusted to fit their individual needs, rather than having tried to force the children to achieve in the artificial but clerically simpler sequence of grades, calendar and materials that comprise the curricula" (Hargis, 1982, p. 4). The curriculum is the one variable that consistently controls student learning, and over which teachers, through CBA and appropriate instruction, have control. The misinformation and narrow tolerance for variation on which the educational system is built has caused us to view students as the

problem, rather than the curriculum and instruction. The result has been the perpetuation of large-scale failure. The solution is in changing our paradigm and our practices.

The significance of this study is its contribution to two areas. First and primarily, it adds to the Instructional Support literature by detailing the systems changes being implemented by seven school districts in their effort to change paradigms and practices regarding students who struggle academically. Specifically, it examines the impact of the 7 SHARE Initiative model of Instructional Support, with CBA and strategic instructional intervention as the critical processes, on the achievement of the students served, a need articulated repeatedly in the prereferral literature (Nelson et al., 1991; Pugach & Johnson, 1988; Safran & Safran, 1996; Straut & Kluth, 1999). This study examines data from multiple sources to discover the impact of the model on individual students, and which interventions are most directly connected to positive outcomes for students. Second, this study adds to the CBA literature another analysis of the impact of Gickling's CBA and associated instructional interventions on the achievement of the students served (Burns, 2002; Gickling & Armstrong, 1978; Gickling, Shane, & Croskery, 1989; Gickling & Thompson, 1985).

Definitions of Terms

The following terms are defined as used in this study:

Board of Cooperative Educational Services (BOCES): An intermediate educational service provider established in New York State to provide shared services to local school districts.

Classroom Intervention Model Teams (CIM Teams): In the 7 SHARE Initiative, this is the team at the building level that includes the IST, teachers, principal,

and other staff members, who are responsible for problem-solving and developing instructional interventions for struggling students and their teachers.

Classification: The determination, after formalized, standardized testing, that a student has a disability and qualifies for special education services.

Committee on Special Education (CSE): The committee established in New York State statues that is responsible for the special education process.

Constructivism: The view that learning is contextual and experiential, a process of self-construction and reconstruction of knowledge as the learner interacts with and tries to make sense of the world. The constructivist view is embedded in the learning theory of Piaget, Dewey, Bruner, and Vygotsky.

Curriculum-Based Assessment (CBA): A process of using the materials used for instruction in the classroom to assess what a student knows, can do, how he thinks, how he addresses that which he does not know, and what he needs. The purpose of CBA is to create the instructional match and the conditions for optimal learning. For the purposes of this study, the CBA process used is that developed by Edward E. Gickling.

Declassification: The determination that a student no longer qualifies for special education services.

English Language Arts (ELA): In the New York State Learning Standards and assessments this includes reading, writing, listening, and speaking.

Functional Behavioral Assessment (FBA): The behavioral parallel to CBA, this comprehensive root-cause analysis of student behaviors yields a behavioral support plan that includes prevention, intervention, and teaching. New York State special education

regulations require an FBA and behavior support plan for any student whose behavior interferes with his education or that of other students.

Individuals with Disabilities Education Act (IDEA): This federal statute replaces the former Education for All Handicapped Children Act (Public Law 94-142) of 1975. The reauthorization of the 1997 law and regulations give directions to states on the requirements for special education programming and procedures.

Instructional Support: The system of providing direct assessment and targeted instruction to students who are struggling academically and/or behaviorally. Instructional decisions are based on the results of CBA. In-classroom support is given to teachers in the implementation of instructional strategies and practices found effective with individual students.

Instructional Support Teacher (IST): A teacher with no full-time class or caseload, who provides Instructional Support to students and teachers, working collaboratively with the CIM Team.

J Curve: Depicts what Lezotte (1990) described as the accelerated learning curve, made possible through quality teaching and learning conditions. These conditions are created by planning instruction to match the prior knowledge of students, and managing the degree of challenge to keep students moving forward as quickly and efficiently as possible.

Multidisciplinary Evaluation Team (MDE Team): The term used in many states to refer to the Committee on Special Education. The team of mandated members is responsible for receiving referrals, conducting evaluations, determining the eligibility of students for special education services, and developing an Individual Education Plan

(IEP) for any student who qualifies to receive specially designed instruction as a result of the presences of a disability.

No Child Left Behind: Signed into law on January 8, 2002 by President George W. Bush, this law reauthorized the Elementary and Secondary Education Act. It increased accountability for states, school districts and schools in ensuring that all students can read by the end of third grade, incorporates school choice if a school is low-performing, and requires implementation of scientifically research-based reading instruction practices along with annual testing of students' reading achievement.

Prereferral Intervention: Required by federal and state special education laws and regulations, these are instructional, behavioral, and programmatic interventions implemented prior to referring a student for special education evaluation.

Section 504: A section of the Rehabilitation Act of 1973, this federal civil rights law prohibits agencies that receive federal funds from discriminating against individuals with disabilities. The law covers individuals of all ages. In schools, students who do not qualify for special education under IDEA may still be considered to have a disability that warrants physical, programmatic, or instructional accommodations. The most common in education is test accommodations.

7 SHARE Initiative: 7 SHARE is a system of Instructional Support being implemented in seven school districts in the SCT BOCES region of New York State. The purpose of the initiative is to prevent student failure and inappropriate referrals to special education by intervening early with support for struggling students and their teachers. The support is provided by an Instructional Support Teacher (IST) or a Classroom

Intervention Team (CIM Team) member, who teaches effective learning strategies to the student and models effective instructional practices for teachers.

Special Education Training and Resource Center (SETRC): Part of a network of support centers for educators, parents, and the community provided by the New York State Education Department, for the purpose of providing quality education for students with disabilities. The centers provide staff development, technical assistance, information, and assistance in data-driven long-range planning for school districts. They serve parents, and the community by disseminating information.

CHAPTER 2

LITERTURE REVIEW

Introduction

This study is grounded in the literature regarding three components. The umbrella component is prereferral intervention, one specific process of which is the Instructional Support process as implemented in Pennsylvania (Kovaleski, Lowery, & Gickling, 1995; Kovaleski, Tucker, & Duffy, 1995; Kovaleski, et al., 1996; Pennsylvania Department of Education, 1995; Tucker, 1994, 2001). This review begins with a review of the literature on prereferral models, then focuses on the Pennsylvania Instructional Support model, after which 7 SHARE is patterned. The second component and the heart of the Instructional Support approach is Curriculum-Based Assessment (CBA) as developed by Edward E. Gickling and Charles H. Hargis (Gickling, 2000; Gickling & Havertape, 1981; Gickling & Thompson, 1985; Hargis, 1987; Tucker, 1985). This review will differentiate Gickling and Hargis's CBA process from the definitions and processes developed after Gickling and Hargis, named CBA and Curriculum-Based Measurement (CBM) (Deno, 1985; Elliot & Fuchs, 1997; Fuchs & Deno, 1991; Fuchs & Fuchs, 1988). The third component of Instructional Support is the body of instructional practices and strategies associated with Instructional Support and CBA as implemented in Pennsylvania and New York (Adams, Foorman, Lundberg, & Beeler, 1998; Algozzine,

Ysseldyke, & Elliott, 1997; Cunningham & Allington, 1999; Dombey & Moustafa, 1998; Ellis & Fouts, 1997; Gickling, 2000; Kagan, 1997; Miller, 1956; Tovani & Keene, 2000).

Prereferral Intervention and Intervention Assistance Programs

Since the 1975 passage of the Education for All Handicapped Children Act, Public Law 94-142, which opened the doors of public education to students with disabilities, school districts throughout the United States have experienced a continuous escalation of referrals to special education, both appropriate and inappropriate referrals (Fuchs, Fuchs, Bahr, Fernstrom, & Stecker, 1990; Safran & Safran, 1996). Concern over inappropriate referrals has been voiced since the 1970s for reasons of excessive cost, disruptions of programming, and stigmatization of children (Reynolds & Balow, 1972; Singer, 1988, cited in Fuchs, Fuchs, Bahr, et al., 1990, p. 483; Will, 1986). Particular concern over the escalation in the classification of students as learning disabled, the delivery of services to these mild-to-moderately disabled students in self-contained classrooms, and the failure of students with disabilities to make adequate academic progress in self-contained special education placements, led to calls for special education reform (Evans, Harris, Adeigbola, Houston, & Argott, 1993; Fuchs & Fuchs, 1994; Gartner & Libsky, 1987; Zigmond, Jenkins, Fuchs, & Fafard, 1995). Two major special education reform efforts that surfaced were the Regular Education Initiative (REI) and the inclusive schools movement (Fuchs & Fuchs, 1994; Zigmond et al., 1995). Both of these movements attempted to reform special education by educating students with disabilities in the general education classroom, with co-teaching support from special education teachers. And both of these movements claimed that the support for special education students within the general education classroom would improve the skills of

general education teachers to more successfully teach a wider diversity of students, suggesting that not only would students with disabilities make greater academic gains in the general education environment, but also that schools could prevent inappropriate referrals to special education by improving the skills of general education teachers through collaboration with special education co-teachers (Fuchs & Fuchs, 1994; Zigmond et al., 1995). The claims of the "efficacy of full-time mainstream placement of students with learning disabilities" have been called into question on the basis that the research "was scarce, methodologically flawed, and inconclusive" (Zigmond et al., 1995, p. 531).

During the 1980s, the development of school-based teams charged with developing processes and procedures to prevent referrals to special education became the prevailing approach to preventing the escalation of referrals to special education. These teams have been identified by a number of names such as Mainstream Assistance Teams (Fuchs, Fuchs, Bahr, et al., 1990; Fuchs, Fuchs, Gilman, et al., 1990; Fuchs, Fuchs, & Bahr, 1990), Teacher Assistance Teams (Chalfant, Pysh, & Moultrie, 1979), School Support Teams and Building Assistance Teams (Pugach & Johnson, 1989), Child Study Teams (Rosenfield & Gravois, 1996), Instructional Support Teams (Kovaleski et al., 1996; Kovaleski, Lowery, et al., 1995; Kovaleski, Tucker, et al., 1995; Pennsylvania Department of Education, 1995; Tucker, 1994, 2001) and Collaborative Consultation Teams (Rosenfield & Gravois, 1996). The models differ in primary focus, approach, and underlying assumptions, but in general their purpose is to prevent inappropriate referrals to special education by providing a problem-solving approach to developing interventions within the general education classroom.

In their 1996 analytical review of published literature on the topic of prereferral intervention, Stephen Safran and Joan Safran characterize programs of this nature as having evolved from two primary sources: Teacher Assistance Teams and prereferral programs (Sindelar, Griffin, Smith, & Watanabe, 1992). The Safrans differentiate the two approaches in terms of (a) where the problem ownership lies, and (b) the level of formality and degree of requirement implicit in the approach.

In their analysis, Teacher Assistance Teams, developed by Chalfant et al., (1979), focus more on collaborative problem-solving as the process, with general education teachers as participants in the process and immediate assistance in solving the problem as the goal. In contrast, prereferral intervention programs of the 1980s, with their roots in the University of Minnesota's Institute of Research on Learning Disabilities and the Regular Education Initiative (Safran & Safran, 1996, p. 364), establish a formal data-driven, behavioral consultation process as a required step in the special education process. The very term "prereferral" communicates (whether intended or not) an assumption that a referral to special education is being considered, and the connection to the special education process allows the assumption that such a process must be highly formalized in terms of procedures and documentation.

The parallels of prereferral intervention initiatives to special education are illustrated in the four characteristics of such programs, articulated by Fuchs, Fuchs, Gilman, et al., (1990):

1. All are based on the LRE doctrine in P.L. 94-142, which requires that students with disabilities be educated in the Least Restrictive Environment.

2. All are intended to focus on prevention of unnecessary referrals to special education.

3. All attempt to provide immediate assistance to teachers on behalf of students.

4. All are "brokered" by special service personnel (e.g., special educators, school psychologists).

Pugach and Johnson (1989), proponents of teacher collaboration and empowerment in addressing the problems of students who are difficult to teach, place prereferral intervention teams into two major approaches to intervention: (a) informal school-based problem-solving teams, and (b) consultation by special education teachers and/or psychologists.

Pugach and Johnson (1989) observed a number of common assumptions underlying the approach of these prereferral structures:

1. They represent a one-way expertise or expert model in which the specialist lends assistance to the general education teacher.

2. Teachers are put in the position of publicly defending the perceived problem with the student.

3. The ownership of the problem is transferred to the "expert," either the team or the consultant.

4. Dependence is fostered on the specialist for clarification of the problem and for the solution.

Pugach and Johnson (1989) observed that these assumptions are likely to operate in any prereferral system in which procedures and decision-making are highly formalized and centralized. The use of consultation by special educators or psychologists may

eliminate the negative impact of requiring teachers to appear before a centralized problem-solving team to publicly defend the reported problem, and it may mitigate some of the complex team problem-solving process. However, consultation models still have the potential to foster a dependency on and transfer of problem ownership to the perceived expert.

Pugach and Johnson (1989) suggest alternate assumptions that place informal problem-solving in a broader educational reform context, the adoption of which serves to build internal capacity in schools to effectively address the needs of all students.

1. Prereferral is a function of general education, a regular function of general education teachers, not owned by special education.

2. Consultation is multidirectional: "In a true collegial atmosphere, all education professionals within a school would be consultants for each other at one time or another" (p. 224).

3. Classroom teachers have adequate expertise to solve many classroom problems in the absence of specialists, given time and an appropriate structure.

4. All problems do not require the same configuration of educators to develop solutions. Ideally, the only core team members could be the principal and the child's teacher, who select the rest of the participants based on the particular student and situation.

Theoretically, this approach parallels the Instructional Support Team process developed in Pennsylvania (Kovaleski, Tucker, & Duffy, 1995) upon which the 7 SHARE Initiative is based. As will be discussed later, however, the most important element for support and follow-up in the general education classroom is missing from the

description above: the dedicated full-time position called the Instructional Support Teacher (IST).

One more recent model, the Collaborative Consultation process developed by Rosenfield and Gravois (1996), combines the team and consultative approaches by using a case management approach to teaming. In this model, each team member is responsible for directly managing a number of cases, working directly with the teacher to problem-solve, plan, implement, and evaluate interventions. This one-to-one approach reduces the potential that teachers will feel they have to "publicly defend" (Pugach & Johnson, 1989, p. 220) their intervention attempts, and builds the capacity of the school to effectively meet students' needs by creating the structure for multi-directional collaboration and flexibility to choose the best match of problem-solvers for a particular problem. The problem-solving process is a formal one, and included in this approach is specific attention to the development of consultation skills among team members. In fact, a primary function of team meetings in this model is the development of skills.

One of the challenges faced by all approaches that rely solely on a team is that each team member has full-time responsibilities either for classes of students or for a caseload. The Instructional Support Model from Pennsylvania, after which the 7 SHARE Initiative was modeled, addresses this challenge by adding a full-time position called the Instructional Support Teacher (Kovaleski, Tucker, et al., 1995). The sole responsibility of the Instructional Support Teacher is to provide instructional support to teachers and students, thereby providing the necessary in-classroom follow-up and modeling of strategies recommended by the team. The various prereferral team structures (drawn from the literature by Chalfant, et al., 1979; Fuchs, Fuchs, & Bahr, 1990; Fuchs, Fuchs,

Gilman, et al., 1990; Kovaleski, Tucker, et al., 1995; Kovaleski et al., 1996; Pugach & Johnson, 1989; Rosenfield & Gravois, 1996) are compared and contrasted in Table 1.

What results have intervention assistance and prereferral programs produced? Two reviews of the literature asked this question regarding (a) reducing referrals, enhancing the quality of collaboration, and improving student learning (Safran & Safran, 1996), and (b) effects on special education service delivery practices, performance of students, and the abilities and attitudes of teachers (Nelson, Smith, Taylor, Dodd, & Reavis, 1991). Overall, intervention assistance and prereferral models are effective in reducing referrals to special education (Chalfant et al., 1979; Fuchs, Fuchs, Gilman, et al., 1990; Graden, Casey, & Christenson, 1985; Gutkin, Henning-Stout, & Piersal, 1988; Ingalls & Hammond, 1996; McGlothlin, 1981; Ponti, Zins, & Graden, 1988).

Pugach and Johnson (1995) found increased tolerance among teachers for a wider range of cognitive ability in classrooms, and the Fuchses (Fuchs, Fuchs, Gilman, et al., 1990) found improved attitudes among teachers toward students with behavior problems, as a result of the collaborative problem-solving process. Teachers' attitudes about the process, goals, and importance of teams are positive (Fuchs, Fuchs, & Bahr, 1990; Harrington & Gibson, 1986; Nelson, Smith, Taylor, Dodd, & Reavis, 1992; Ponti et al., 1988; Pugach & Johnson, 1988; Safran & Safran, 1996), but it is interesting to note that few teachers offered positive comments regarding the academic or behavioral improvement of students (Chalfant et al., 1979), and teachers found recommendations of the team only occasionally successful (Brown, Gable, Hendrickson, & Algozzine, 1991; Harrington & Gibson, 1986).

Table 1

Prereferral Intervention Team Names, Focus/Purpose, Process, Assumptions

TEACHER ASSISTANCE-TYPE TEAMS ▪ **Collaborative Problem-solving** ▪ **General education teacher ownership** ▪ **Immediate classroom assistance** **Placing the initiative for action squarely in the hands of the classroom teacher (Chalfant et al., 1979, p.88)**			
NAME	**FOCUS/PURPOSE**	**PROBLEM-SOLVING PROCESS: WHERE? WHO?**	**ASSUMPTIONS**
Informal Problem-solving Teams: ▪ School Support ▪ School/Building Assistance ▪ School Appraisal (Pugach & Johnson, 1989)	Provide immediate and ongoing informal assistance to teachers in solving mild learning or behavioral problems. Screen referrals for appropriateness for special education.	A multidisciplinary team, often with many "specialists", the principal, and sometimes a standing general education teacher member, receives a referral from a teacher, who comes to the team for the problem-solving process.	▪ Specialists, not classroom teachers, have the skills to solve learning and behavior problems. ▪ The process is typically centralized, formal, and bureaucratic, perpetuating the same assumptions as the formal special education process. ▪ The benefit is in the immediate and less formal than special education intervention.
Teacher Assistance Teams (Chalfant et al., 1979)	Developed for the purpose of providing immediate assistance in a problem-solving mode, while purposefully moving away from the expert-only model.	Three classroom teachers, the referring teacher, and the parent form the original team. Teachers being the leaders of this approach, meet to determine if administrators or special education staff should hold permanent membership.	Classroom teachers are sources of expertise in the problem-solving process.
Instructional Support Teams (IST) (Gickling, 1981, 2000; Gickling & Havertape, 1981; Gickling & Thompson, 1985; Kovaleski, Gickling, Morrow & Swank, 1999; Kovaleski, Tucker, et	Beyond preventing inappropriate referrals to special education, the purpose of Instructional Support is to help schools develop a seamless system of support for students and teachers where, at the	Team membership is flexible, but always include ▪ The principal as the instructional leader, ▪ The student's classroom teacher, and ▪ The instructional	▪ The system is the problem, not the child or the teacher. ▪ Teachers and students need teaching/learning support. ▪ Effective instruction in the

Table 1 – *Continued.*

al., 1995; Kovaleski, Tucker & Stevens, 1996; Tucker, 1985; Tucker, 2001)	first sign of student struggle, assistance is provided in the regular classroom. Instructional support works by combining a team process with a specific position called Instructional Support Teacher. The process requires Curriculum-Based Assessment as developed by Gickling and Hargis, guided-practice training, collaboration among staff, team-building, specific instructional practices, student discipline, and student assistance for at-risk issues.	support teacher. The support teacher is of critical importance: a specially trained teacher with no classroom of students and no caseload, who works directly with students to assess their needs in the classroom and to model strategies for the student, teachers, parents and others who work with the student.	general education classroom is the focus. ▪ The quality of instruction is enhanced through supportive collaboration among teachers and a guided-practice approach to staff development. ▪ Learning difficulties are often the result of a mismatch between the demands of the task and the prior knowledge and skills of the student. ▪ Students can succeed when instructed at their instructional level. ▪ High-level implementation of the prescribed model produces better student outcomes. ▪ Moves from expert to collegial support.
Child Study Teams (CST) (1985, New York State Pre-referral Project. Rosenfield & Gravois, 1996)	While developed to use a problem-solving approach to solve learning and behavioral problems and make intervention recommendations to teachers, these teams became the primary gatekeeper for the special education referral process. A referral to the CST almost inevitably resulted in qualification for special education services.	Principal, school psychologist, special education teacher, social worker, often the nurse, guidance counselor, and sometimes a general education teacher are standing members of the team. The referring teacher, and in some cases the parent, come to the team, present the problem, and the team brainstorms solutions, recommending interventions to be implemented by the teacher and/or the parent.	▪ The child is the problem. ▪ The team "studies" the child. ▪ The teacher doesn't have the necessary skills. ▪ The teacher needs experts to solve the problem. ▪ The team recommends strategies that the teacher must implement without support. ▪ Students whose problems cannot be solved by this team belong in special education.

Table 1 – *Continued.*

CONSULTATION PROCESS TEAMS			
Consultation Process (Pugach & Johnson, 1989)	Teachers receive immediate assistance that is classroom-based, and less centralized and bureaucratic. The approach is a case-management approach, with experts providing consultation to classroom teachers.	Special education teacher or psychologist consults one-on-one, directly with the requesting teacher.	▪ Promotes collaboration between special and general education personnel ▪ Perpetuates expert model ▪ Assumes that the methods of the specialist are not in the "repertoire of the classroom teacher" (p.221). ▪ Perpetuates dependence on the consultant ▪ Teacher owns the problem, but not the solution.
Mainstream Assistance Team (MAT) (Fuchs et al., 1990a; 1990b, 1990c)	Behavioral Consultation Process: consultant intervenes in the difficult to teach (DTT) student's problem by leading the teacher through the prescribed process in a series of meetings. High emphasis on fidelity of implementation.	Participating teachers are actively recruited, rather than volunteering. Consultant and teacher follow a prescribed, scripted process: ▪ Problem identification ▪ Problem analysis ▪ Plan implementation ▪ Problem evaluation	▪ Perpetuates expert model ▪ Emphasis is placed on the formalized process. ▪ No classroom support for implementation. ▪ No assumption of class-wide application.
Collaborative Consultation Teams (Rosenfield & Gravois, 1996)	Collaborative problem-solving is used for instructional improvement. Focus is on teachers, students and the organization. The previous instructional consultation model has been "integrated	Multidisciplinary team, using a "designated systems manager" (p. 12) and a Case Manager approach. Teams use a prescribed process with the following steps:	▪ All students are learners: focus on "facilitating learning for all students, not documenting failures" (p.16). ▪ Focus on instructional match, not place

Table 1 – *Continued.*

	into a more comprehensive school-based team model"(p.13). The effectiveness of team functioning is a primary focus. CBA is used as the basis for interventions.	▪ Problem identification ▪ Problem analysis ▪ Plan implementation ▪ Problem evaluation The purpose of the team is to increase the skills of individual members as case managers who conduct the entire consultation process, and to evaluate the effectiveness of their interventions.	of service. Match between student entry-level skills and the strategies used, is essential. ▪ Build a problem-solving learning community in the school. ▪ Successful systems change requires a clearly articulated "innovations bundle" (p.19) with an integrated process for transitioning the school through the stages of change.

The impact of prereferral intervention programs on student behavior and learning is a question that has not been sufficiently answered in quantifiable terms. With the exception of the Fuchs' Mainstream Assistance Team model, which documented improvement in student behavior as a result of a highly structured, even scripted approach to intervention, the majority of studies that report positive student outcomes rely on professionals' self-reporting of student benefit. Improved student behavior is reported as a result of the prereferral programs in Fuchs, Fuchs, Gilman, et al. (1990), Pugach and Johnson (1988) and in case studies reported by Zins, Graden and Ponti (1988). The survey of state directors of special education conducted by Carter and Sugai (1989) revealed that while the majority of states require or recommend prereferral intervention, nearly half of the state directors reported that interventions were only sometimes successful, and one fourth reported that they had no basis for determining

whether or not the interventions were successful. Chalfant and Pysh (1989) and Chalfant et al. (1979) report student progress in goal attainment. In summary, studies regarding the outcomes of various forms of school-based prereferral, child study, student assistance, and collaborative consultation teams report varying degrees of impact in reducing referrals to special education, improving teacher attitudes about the prereferral process, increasing teacher tolerance for learning diversity among students, and improving teacher attitudes toward students with behavior problems. All leave unanswered the questions of student achievement and success in the general education classroom.

Why is it that even though there seems to be so little concrete evidence that prereferral interventions improve student behavior and learning on a long-term basis, states still mandate or recommend such interventions, and teachers still respond positively to the goals of and need for intervention models? Could it be that the professional collaboration and support among educators is what they lack and desire? Do they see improvements in students' learning and behavior in their day-to-day interactions, despite the fact that researchers have not demonstrated the impact of intervention on students? Do they see the hope in instructional support for students and teachers, despite the lack of complete implementation integrity?

Implementation integrity is the subject of discussion in many of the teacher assistance and prereferral models. Except for Fuchs and Fuchs (1989), Fuchs, Fuchs and Bahr (1990), and the Pennsylvania Instructional Support Initiative, intervention models have not articulated specific steps taken to ensure integrity in the intervention implementation or program implementation. The Mainstream Assistance Team model used graduate assistants to ensure by direct observation that interventions were

implemented as designed. Safran and Safran (1996) report that in programs with university involvement or training, significant reductions in referrals have been found. In a study of the Pennsylvania Instructional Support Initiative (Kovaleski, Gickling, Morrow, & Swank, 1999) researchers found that students receiving instructional support made greater gains in academic performance when their schools implemented the process with a high degree of fidelity to the prescribed design. Rosenfield and Gravois (1996, pp. 149-152) also speak to the need to identify specific program implementation components and have developed a tool to evaluate the level of implementation to be used as part of the process for determining the effectiveness of the program. "Many innovations in schools fail because their critical components are never implemented with integrity" (Fudell, 1992, cited in Rosenfield & Gravois, 1996, p. 19).

In order to provide clarity that gives schools the information on which to (a) make informed decisions concerning adopting a model, and (b) determine the success of the implemented model, concepts should be translated into an "innovation bundle" (Rosenfield & Gravois, 1996, p. 19). "Without a description of the essential elements of the model, a well-developed training package, and a method to evaluate implementation, schools may adopt the rhetoric of collaborative consultation without the substance" (Rosenfield & Gravois, 1996, p. 19).

The review of the literature on prereferral and teacher assistance models reveals areas in need of more examination, including:

1. research that reveals direct, measurable student outcomes in learning and behavior, over time and across settings

2. research that demonstrates impact on referrals to special education sustained over time, to eliminate the possibility of a mere delay

3. research that demonstrates that more collaborative, less directive processes yield measurable positive student outcomes

4. research that integrates attention to program implementation integrity, identifying the quality criteria for systems components essential to success (e.g., resources, staffing, skills, training, administrative involvement, data management, and analysis).

The Instructional Support Team concept developed in Pennsylvania was the next generation of school-based student achievement problem-solving processes, one that began to directly address and measure these areas.

The Instructional Support Concept

Instructional support as a concept (Tucker, 2001) differs from prereferral intervention in a number of fundamental and essential ways. A concept begun in 1985 in the state of Connecticut under the title The Early Intervention Project is being implemented in at least four states: Connecticut, Michigan, Pennsylvania, and New York (Tucker, 2001). The scope of the impact of Instructional Support is much broader than prereferral due to its focus in concept and practice on improving the effectiveness of instruction and assessment in the general education classroom. The principles on which the concept of instructional support are built are these (Gickling, 2000; Tucker, 2001):

1. When a student is struggling academically, it is the system that has failed, not the student. In systems-thinking literature, it is reported that 95% of quality problems are attributable to systems components, and less than 5% to people error (Scholtes, 1998).

Thus, learning and behavioral struggles are seen as opportunities to improve instructional and management skills, rather than as deficits in the child. Referrals to the team must be viewed as requests for assistance in the classroom (Tucker, 2001).

2. Waiting for a formal bureaucratized process of qualification, such as that required to qualify for special education, is unacceptable. Waiting causes frustration and failure, and increases the degree of the gap between the student's skills and the demands of the instructional environment. When students and teachers are struggling, they need immediate assistance (Gickling, 2000). Instructional Support is built on the premise that "fragmented curricula, inadequate instruction, and the lack of prior knowledge should be ruled out before a student is considered as a candidate for special education" (Kovaleski et al., 1999, p. 180). This is a position shared by the International Reading Association (Allington & McGill-Franzen, 1996; Long, 1995; Pikulski, 1996; as cited in Kovaleski et al., 1999).

3. Improving instruction is the focus. All students can learn. When students struggle it is not the student who is the problem, it is the mismatch between the student's prior knowledge and entry-level skills, and the demands of the task that are the problem. Appropriate instructional assessment leading to specific instructional intervention is the answer (Gickling, 2000; Gickling & Thompson, 1985, 2001; Hargis, 1987, 1989; Tucker, 2001).

4. Curriculum-based Assessment (CBA), as developed by Gickling (Gickling, 2000; Gickling & Havertape, 1981; Gickling & Thompson, 1985; Hargis, 1987; Tucker, 1985), is the process that enables us to uncover the mismatch, and to make instructional decisions about which interventions and strategies will create the instructional match.

5. Collaborative problem-solving using student data is essential to solving student struggles and turning individual interventions into systems changes that benefit large numbers of students (Rosenfield & Gravois, 1996). An essential component of the process is training teams to think differently about the effective response to student struggles and to work together effectively as a team (Kovaleski, Tucker, et al., 1995; Rosenfield & Gravois, 1996; Tucker, 2001). "A school culture based on shared technical expertise and norms of collaborative problem-solving is the context in which students' academic and behavioral development can be addressed most effectively" (Rosenfield & Gravois, 1996, p. 16).

> When teachers sit down together and study student work, when they relate this student performance to how they are teaching, and when they get better ideas from each other and from best practice outside to improve their teaching practices, they are engaged in a knowledge creation process that is absolutely essential. (Fullan, 1999, p. 38)

6. Support for students and teachers must occur within the classroom. The IST is essential as a member of the team, as an instructional assessor, and as the provider of in-classroom support. The IST brings support to the teacher and students within their classroom by modeling effective instructional strategies targeted at improving the achievement of all students. Training for teachers and teams is primarily job-embedded, as it is hands-on, in classrooms, and in team meetings rather than in purely off-site didactic workshops (Guskey, 1991; Joyce & Showers, 1988; Kovaleski, Tucker, et al., 1995; Tucker, 2001).

7. School administrators, leading effectively, are key to the success of Instructional Support. Their responsibilities include actively participating in teams, facilitating the work of the IST, and "monitoring the quality of instruction and being

aware of what effective instruction is and how it should be assessed" (Kovaleski, Tucker, et al., 1995; Tucker, 2001, p. 48).

The Instructional Support process fulfills the spirit and requirements of IDEA (1997) and the No Child Left Behind Act (PL 107-110, 2001), by providing a process in each school for truly exploring, in a specific and measurable way, all instructional interventions prior to determining that more intense interventions such as a referral for special education evaluation may be needed. The student performance data gathered through the instructional assessment and intervention process provide the necessary evidence that instructional interventions in the general education arena are either sufficient to correct the issue, or not. If interventions prove to be insufficient to solve the problem, the special education evaluation process begins with valuable data obtained through the instructional support process about what the student knows, can do, needs, and how the student responds to specific instructional interventions. Thus, by design, one of the functions of the IST and team is to screen students for consideration for special education evaluation (Kovaleski et al., 1996; Kovaleski, Lowery, et al., 1995; Kovaleski, Tucker, et al., 1995; Tucker, 2001). During the intervention period, it is essential that the team and support teacher analyze the student's learning rate in terms of rate of acquisition, the "ease with which a student learns new information or acquires appropriate skills," and rate of retention, "the ability of the student to retain and use information or skills in meaningful ways" within the curriculum content (Kovaleski, Lowery, et al., 1995; Kovaleski, Tucker, et al., 1995, p. 4). This information is much more valuable than IQ and standardized test scores both in the intervention and special education evaluation processes.

Defining Instructional Support: The Pennsylvania Initiative

Because the 7 SHARE Initiative was designed upon the experiences of the Pennsylvania Initiative, the definitions and descriptions of Instructional Support reviewed here are confined to those found in the literature on the Pennsylvania Initiative. For example, the term IST in the Pennsylvania model refers to the Instructional Support Team, while in the 7 SHARE Initiative, IST refers to the support teacher. Details of the implementation variations in the 7 SHARE Initiative are discussed in chapter 3.

The primary purpose of the Pennsylvania Initiative was to reduce the numbers of referrals for special education evaluation and inappropriate placements in special education (Kovaleski et al., 1996). The method to do so was to improve instruction. Instructional Support was implemented state-wide by requirement of the 1990 Pennsylvania Special Education Regulations and Standards, in response to a growing national concern that special education had become an escalating, deficit-driven system of service delivery based on sorting, selecting, classifying, and placing students (McNamara, 2001), rather than on providing quality instruction. It was by specific design that the Pennsylvania model focused on instruction (Kovaleski et al., 1999; Kovaleski et al., 1996; Tucker, 2001). "The most significant change in the regulations was to focus on instructional needs of students, rather than on perceived internal deficiencies of students" (Feir, 1992, as cited in Kovaleski, Tucker, et al., 1995).

There are two critical differences between Instructional Support and the prereferral models reviewed earlier.

1. The assumption is 'support for instruction' rather than a process that precedes an almost inevitable referral. The language of Instructional Support reflects and forms the view that the struggles students experience in school are met by instructional interventions. The primary role of the team and support teacher is to improve instruction in the school. Instructional Support is systems-change with the support to achieve it built-in.

2. The presence of a full-time support teacher is critical to delivering support. The specific role of the support teacher is detailed later.

Instructional Support is a proactive, data-informed collaborative problem-solving approach to addressing the learning and behavioral struggles experienced by students and the instructional and management challenges faced by teachers. When Instructional Support is viewed as support for instruction, teachers are encouraged to seek the assistance of the team and IST early: when a student is first beginning to struggle, or when the teacher first needs help with an instructional, curricular, assessment, or management skill.

The system has two components: an Instructional Support Team and a support teacher at a ratio approximately 1 per 500 students (Kovaleski, Tucker, et al., 1995). The minimum membership on the team is the principal, the child's teacher, and the support teacher (Kovaleski, Tucker, et al., 1995), with additional personnel (e.g., nurse, social worker, speech therapist, psychologist) participating as indicated by the nature of the problem. Parent participation is actively sought and encouraged. With the focus on increasing student achievement by improving instruction, the role of the team is to use

data to identify and analyze the problem, and to conduct a "systematic search for what works" (E. Moe, as cited in Kovaleski, Tucker, et al., 1995, p. 2).

The support teacher is a particularly critical component that makes Instructional Support different from former prereferral models. The support teacher is one who serves as a support to individual students who are struggling, and to their classroom teachers. The support teacher has no classroom or caseload of students (Kovaleski, Tucker, et al., 1995). The support teacher works directly with students for a period of time sufficient to identify and assess the need, identify appropriate interventions, and teach strategies to the student and parent. Then, critical to the process is transferring the effective practices to class-wide applications by modeling them in the classroom for the teacher to implement. "In all cases, the [team] plans for the support teacher to 'phase out' direct involvement with the student in favor of the classroom teacher or other regular education personnel" (Kovaleski, Tucker, et al., 1995). This aspect of Instructional Support builds the capacity for large-scale improvement in student achievement and teacher satisfaction. Providing job-embedded staff development through modeling and guided-practice is thought to be the most effective way of ensuring the internalization of new knowledge and attitudes, and the development and successful application of new skills (Coulter, 1985; Guskey, 1991; Joyce & Showers, 1982, 1988).

Training for the team and support teacher in the Pennsylvania model was systematic, differentiated for various participants, provided on-site, and included regional networking. The components of training were based on school effectiveness research (Stellar, 1998; as cited in Kovaleski et al., 1996; U.S. General Accounting Office, 1989), and on the pilot programs in Connecticut and Pennsylvania (Kovaleski et al., 1996). The

components of training were collaboration and team-building, instructional assessment, student discipline, instructional adaptation, and student assistance for at-risk issues such as abuse, neglect, loss, chemical dependency, mental health problems, and unemployment (Kovaleski, Tucker, et al., 1995). A validation process designed to assess the degree of implementation of the Instructional Support components was conducted across the state. Successful outcomes for students and for systems changes have been directly linked to the degree of implementation integrity (Kovaleski et al., 1999).

Data on the Impact of Instructional Support in Pennsylvania and Connecticut

The Pennsylvania Initiative was evaluated on multiple measures. The six measures of impact include frequency of teacher use of the process, referrals for special education evaluation, special education placement rate, retention in grade, increase in academic achievement, and cost effectiveness. Findings within each measure are summarized in the section below. This is a study that illustrates the need filled by the current study, the need to evaluate the impact of intervention on individual students.

Frequency of teacher use of the process

Results of program evaluation in Pennsylvania indicated that the longer a school participated in Instructional Support, the more teachers used the process. Across the state, schools in the first year of implementation (1992-93) identified 7.4% of their student population for instructional support. During the next 2 years, the percentage of students identified rose to 9.6% and 10.7%. The average number of students served is reported at 10% of the student population (Kovaleski et al., 1996; Kovaleski, Tucker, et al., 1995).

Referrals for special education evaluation

In the Pennsylvania project, data taken on the referral rate of participating and non-participating schools during the 1992-93 school year demonstrated a decrease of between 33% and 46% in referrals for special education evaluation in participating schools (Kovaleski et al., 1996; Kovaleski, Tucker, et al., 1995; Tucker, 2001). As will be discussed later, this mirrors the findings of the 7 SHARE Initiative in New York State, which report a 41% reduction in referrals to special education during the first year of implementation in the nine pilot schools, a statistic sustained over 4 years (Papandrea, Walkley, & Reidy, 2002). The Pennsylvania data also show a 3% referral rate by teachers in non-implementing schools, compared to a 2% or less referral rate by teachers in implementing schools (Hartman & Fay, 1996; Kovaleski, Tucker, et al., 1995). Another evaluation of the data reports that referral rates in implementing schools were one-third to one-half that of non-implementing schools (Kovaleski et al., 1996). Kovaleski et al. (1996) reported that approximately 85% of the more than 47,000 students served annually by Instructional Support in Pennsylvania during the 1995-1996 school year did not need to be referred to special education (Kovaleski & McCluskey, 1998). Hartman and Fay (1996) found that while IST schools had a need to improve the efficiency of their Multidisciplinary Evaluation (MDE) process, finding only 54% of those referred for evaluation actually placed, these IST schools still performed better than non-implementing schools. Schools without ISTs placed only 37% of those students referred for evaluation.

Special education placement rate

Connecticut began its implementation of Instructional Support in individual schools within eight school districts during the 1985-86 school year. Special education placement rate data from one of the schools demonstrated a 73% decline in placements in special education (from 53 to 14) during the first year of Instructional Support. In one location, for example, data recorded annually demonstrates that after having dropped from an 8% to a 2% special education placement rate the first year, the school sustained a 1-2% placement rate over 10 years (1985-1998) (Tucker, 2001). Connecticut had particular concerns about the over-representation of minorities in special education. One inner-city-participating Connecticut school, with a student population of 70% Hispanic and African Americans, recorded special education placement data by race and ethnicity over the first 4 years of Instructional Support implementation. Their data demonstrated a dramatic drop the first year in the proportion of minority students placed in special education, an outcome sustained over the 4 years in which the data were collected. Pre-post Instructional Support percentages of students placed in special education showed a decline from 95% to 7% Hispanic, 36% to 3% African American, and 48% to 3% Caucasian from 1984 to 1989 (Tucker, 2001, p. 58). This is evidence that support for effective instruction in the general education setting helps all students to succeed. In Pennsylvania, data during the 1990-91 school year demonstrated an average 45% reduction overall in special education placements in 186 implementing schools within 104 districts (Tucker, 2001).

Retention in grade

Besides lowering referral and placement rates in special education, another goal of the Pennsylvania Instructional Support project was to reduce the numbers of retentions in grade. Again it was believed that providing in-classroom support for improved instruction would result in higher student achievement as measured by lowered retentions. It was believed that a reduced retention rate might result in a lower rate of dropouts at the high-school level. Data showed a reduction during the initial 3-year implementation period of as much as 67% in grade retentions in schools implementing Instructional Support as compared to years prior to implementation (Hartman & Fay, 1996; Kovaleski et al., 1996; Kovaleski, Tucker, et al., 1995; Tucker, 2001). Tucker points out that this reduction in retentions happened at the same time that the schools were reducing special education placements by 33% to 46% (Tucker, 2001).

Increase in academic achievement

Student achievement data demonstrating increased academic achievement exist in every project involved in Instructional Support, but less has been published on this aspect of the outcomes than on systems outcomes. This may be true for two reasons. First, the very nature of Instructional Support requires assessment of the individual student experiencing difficulty, using CBA, a non-standardized assessment procedure. Use of this most instructionally relevant process precludes aggregation of the data, making the construction of a research study challenging. The second reason that designing a study to measure the impact of Instructional Support on student achievement is challenging is the ethical challenge posed by establishing a control group that would not have the intervention believed to be effective.

Kovaleski et al. (1999) overcame both of these challenges by designing a study that measured the achievement of students in participating and non-participating schools during the 5-year phase-in of Instructional Support in Pennsylvania, employing Academic Learning Time (ALT) as the measure of student achievement. Academic learning time has been directly associated with daily student achievement in the classroom and in student behavior (Gickling & Armstrong, 1978; Gickling et al., 1989; Gickling & Thompson, 1985; Thompson, Gickling, & Havertape, 1983). Kovaleski et al. (1999) found that students served by IST improved on the three measures of ALT: time-on-task, task completion, and task comprehension. They also found that students in schools with a high level of implementation of IST consistently performed higher on measures of ALT than did students in schools with low implementation, demonstrating that the integrity of implementation of essential components of a system contributes to the degree of impact on student achievement. Over time, students served by IST in the high-implementation schools began to "approximate the performance of their average peers across all three ALT variables" (Kovaleski et al., 1999, p. 180).

The standardized Stanford Achievement Test was used as a measure of increased student achievement in reading vocabulary and comprehension in two Pennsylvania schools (Tucker, 1993a, 2001). Students in two resource-room classes and one general education fifth-grade class demonstrated significant gains in reading vocabulary and reading comprehension over 1 school year, as a result of implementing the instructional practices recommended and supported by the IST.

Even though few studies on academic achievement exist, leaders and participants in Instructional Support do have data to support claims of increased student achievement.

It exists in published and unpublished reports (as will be reported in the current study) in student case-studies, individual CBAs, and interviews with teachers, parents, principals, and students, and provides the basis for the following statement:

> Perhaps the most impressive outcome of instructional support is the fact that student achievement has improved. Students who were struggling aren't any more; students who were not reading are now; students whose misbehavior was the result of boredom or frustration are declared by their teachers to be behaving. (Tucker, 2001, p. 57)

In the broader sense of student success, Hartman and Fay (1996) found consistent success in general education classrooms of students serviced by IST in the 1992-1993 and 1993-1994 school years. They reported that five out of six students referred to IST remained in the regular classroom, their needs successfully met without need of a referral for special education evaluation or programming.

Cost-effectiveness

In an independent study of the cost-effectiveness of the Pennsylvania IST process over 10 years, Hartman and Fay (1996) found that implementation of IST lowered special education placements without costing more than the traditional "refer-test-place process" (Kovaleski, 2000; Kovaleski et al., 1999; Tucker, 2001). In addition, Hartman and Fay (1996) report fewer students referred to MDE for evaluation, fewer students found eligible for special education, increased support in the general education classroom for those students not found eligible, fewer students retained in grade, and the potential for substantial cost savings in school districts seeing large decreases in special education placements (Hartman & Fay, 1996; Kovaleski et al., 1999). The greatest cost savings to districts is found in lower special education placements. A second cost savings for school districts is that resulting from reduced grade retentions. Hartman and Fay

suggested a cost savings equal to the average annual expenditure ($6,366) for each student retained in grade. But the greatest "strength of the IST lies in providing more and better services to more students" (Hartman & Fay, 1996, p. 31).

Curriculum-Based Assessment

Embedded in the student's quote at the opening of the Introduction to this study are many of the essential components that make the curriculum-based assessment, developed by Dr. Edward E. Gickling (Gickling, 2000; Gickling & Havertape, 1981; Gickling & Thompson, 1985), different from the processes, purposes, and outcomes of standardized assessment and curriculum-based assessment (CBA) and curriculum-based measurement (CBM) as developed by others. John's quote demonstrates these elements:

1. The achievement problem, or learning struggle, reported by the teacher or student (e.g., *I wasn't that good at reading or math)*

2. A measurable statement of what the student knows and can do, using the material being used in the classroom, obtained by sitting with the student (e.g., *I only went up to 25 words per minute*)

3. An indication of which skills the student needs in order to correct the problem (e.g., 25 wpm indicates a need to improve reading fluency)

4. Identification of a specific instructional strategy to improve the problem, tried and evaluated for impact during the assessment (e.g., *I got better at chunking)*

5. A measurable statement of the results of implementing the strategy (e.g., *I went up to 139 words per minute)*

6. A statement of the long-term effect of the CBA and the intervention (e.g., *It helped me read the book faster, and it doesn't sound like blah, blah, blah, blah*).

The term "assess" is derived from the Latin *assidēre*, meaning, "to sit beside." CBA, as developed by Gickling, weaves assessment, instruction, and curriculum into each and every "sit-beside assessment" conducted with a student, making assessment, instruction, and instructional decision-making inseparable within the process of conducting a CBA. Gravois and Gickling write, "While assessment has traditionally been used for classification, placement and progress monitoring, it is a fourth perspective, that of instructional decision-making that is the primary focus of CBA" (Gravois & Gickling, 2002, p. 886). This view of assessment, that of using the information learned to make decisions about instruction and curriculum, is shared by many authors in the field of assessment (Brigance & Hargis, 1993; Hargis, 1987, 1990; Popham, 2001; Tucker, 1985; Wiggins, 1998). Brigance and Hargis (1993) wrote, "Assessment should be so much a natural part of instruction that it is not even considered a separate activity, let alone an intrusive one" (p. 81). Tucker wrote, "The whole point is to improve instruction so that pupils will learn more" (Tucker, 1985, p. 202).

Systems Problems

In order to place CBA in the correct context, it is necessary to discuss the educational systems problems that have created the need for a different approach to assessment and instruction. It is the very design of our system that creates what Hargis calls "curriculum casualties" (Hargis, 1982, 1987) – students for whom the system has failed, and who have suffered from deficit-driven practices such as referral, testing, remediation, classification, and placement. Hargis begins his 1987 book titled *Curriculum-based assessment* with the Greek myth of Procrustes, the tyrant who subjected travelers to retrofitting in his iron bed. If one was too short, he was stretched

on a rack. If too tall, he was shortened with an ax. Hargis draws the analogy to the 'one-size-fits-all' approach in our schools. We set grade-level curricular expectations and march all students through each school year, measuring them against the curricular objectives rather than against their prior knowledge. The result is a 15% to 20% failure rate and high rates of referral to special education. Hargis writes, "Despite substantial learning ability, these students, who are often called learning disabled, are actually casualties of inflexible curricula" (Hargis, 1987, p. 3) and what Emmett Betts called the "lock-step" nature of school organization (Betts, 1946, pp. 15, 35-39). What are the erroneous beliefs on which our system is built, causing such high rates of failure?

The Bell Curve Syndrome

In their book titled *The Poisoned Apple: The Bell-Curve Crisis and How Our Schools Create Mediocrity and Failure*, authors Betty Wallace and William Graves (1995) identify erroneous thinking about student development on which American public education is based. Attributing the phenomenon of the bell-curve syndrome and its pervasive and deep-rooted negative consequences as the root cause of our high rates of failure, they write that our public schools "embraced the bell curve early in the century" (Wallace & Graves, 1995, p. 16). It is appalling to reflect on the millions of students and teachers whose achievement and practices have been deleteriously impacted by a belief whose origin is based in the examination of the weight of Embden geese!

Carl Friedrich Gauss of Germany discovered the bell-curve phenomenon in the 19th century when he observed that natural occurrences, such as those he observed in the weight of adult geese, will "tend toward an arithmetical average" (Wallace & Graves, 1995, p. 16). Gauss observed that the average weight of adult male Embden geese was

26 pounds, and that the "occurrences of mature geese weighing more or less than average diminish as the margin separating them from the average widens" (p. 16). So, in 100 geese, one could expect to find "32 that weigh within a pound more or less than the norm, but only four that weigh more than three pounds above or below average" (p. 16). When plotted on a graph, the pattern he observed was the bell-shaped curve, also called the Gaussian, normal, or error curve. It is important to note that this phenomenon applies to natural occurrences, another example of which might be the height of 18-year-old men (Wallace & Graves, 1995, p. 16). Educators have operated on the assumption that student achievement falls into the same pattern, believing that innate intelligence is more closely tied to achievement than are factors such as effort and will. "In reality, however, many natural characteristics do not produce bell curves, but irregular, skewed curves" (Wallace & Graves, 1995, p. 17). Examples include human accomplishment and student achievement. "This is because human accomplishments are more a function of will and effort than of inherent, naturally occurring qualities such as intelligence" (Wallace & Graves, 1995, p. 17).

Gickling and Thompson (1985) write of the faulty application of the bell-curve to student learning:

> To the great detriment of students and teachers alike, the American public education system has structured the entire system on the faulty belief that the bell-curve is normal, a proper expectation in terms of student achievement and a distribution to even be strived for. Our school systems are based on the faulty belief that students should perform these skills at an ability level commensurate with that of their chronological age peers. (p. 208)

Grant Wiggins wrote, "The 'normal' curve is a statistical construct at odds with the purpose of education, which is to *change* a typical distribution of performance into a

skewed curve of competence" (Villa, Thousand, Stainback, & Stainback, 1992, as cited in Gickling, 2000, p. 3).

Our aim must be the creating of what Lezotte called the "J Curve" (Lezotte, 1990, as cited in Gickling, 2000, p. 3). The idea that there is such a thing as grade-level performance is another faulty belief on which American public education is based. The reality of 'normal' expectations about student performance is quite different than how we practice.

The Error of Grade-Level Expectations

Public schools are organized around the belief that students of the same chronological age should be expected to perform at about the same proficiency level. This level is referred to as grade-level, a concept based on bell-curve thinking: that it is realistic to expect an average performance correlated to chronological age, and that the majority of students should fall into that range. Those who do not are considered either disabled—their "individual differences in learning ability viewed as curable maladies" (Hargis, 1987, p. 7)—or as gifted. Bell-curve thinking permeates virtually all of the systems, including curriculum publishers, test publishers, and state assessment developers. Gickling and Thompson (1985) write of the enormous demands placed on children by the normative properties of curriculum. They write that curriculum is normative in that it is written at grade level, sets grade-level standards of progress, requires a certain volume of material be covered day-to-day, assumes previous experiences, masks individual differences, promotes peer comparison rather than individual mastery, and obscures issues of the quality of teaching, the skills of the child, the specifics involving drill and practice, and the rate of ease at which students learn and

retain information. They add that print is inflexible, requiring action by teachers in managing the level of challenge.

The detrimental systems-results of bell-curve thinking are pervasive and include:

1. A system that uses the bell-curve as a "prescriptive rather than a descriptive tool–as if the curve were a law of nature" (Wallace & Graves, 1995, p. 19)

2. A system in which "what suits the average becomes the standard instructional path and pace for all children of a given age group" (Wallace & Graves, 1995, p. 25)

3. Curriculum, textbooks, and assessments written to a grade-level average

4. A "lock-step" educational system in which the curriculum marches forward, with an expectation that all students "start at the same point and progress through the same objectives at the same rate" (Hargis, 1997, p. 7), regardless of their prior knowledge

5. Instruction geared to the middle, which "misses the mark for most students most of the time" (Wallace & Graves, 1995, p. 19)

6. A national norm-referenced standard that focuses on "rudimentary skills in reading, language and mathematics" (Wallace & Graves, 1995, p. 28); standards not equated with standardization or conformity

7. An entrenched system of mediocrity (In their 1983 report to the nation and the Secretary of Education, entitled *A Nation at Risk: The Imperative for Educational Reform* [1983], the National Commission on Excellence in Education warned that the rising tide of mediocrity threatened our schools, and thus our nation's health. Our system must have the highest expectations for each student, not just 30%.)

8. "An evaluation system that judges students more on how they compare to the average than on what they know" (Wallace & Graves, 1995, p. 19)

9. A system where, in order for some to achieve, others must fail
10. Systems that devote their attention to fixing kids
11. A pattern of failure for a large portion of students
12. Labeling, or name-calling of students:
    a. Disabled–there are 13 legally defined categories of disability
    b. At-risk (of being disabled)
    c. Gray-area children
    d. Lazy students
    e. Slow learners
    f. Low-achieving students
    g. Tough-to-teach students
    h. Normal or average students
    i. Gifted and talented students.

This is not to negate the existence of disabilities. As Tucker (1985) writes,

> There are students who have real handicaps that are beyond the scope of regular classroom experience to handle, but their number is very low compared to the number of students that are being referred for special education consideration today. There are indeed disabilities to learning, but they, too, appear to be unique to each individual: no generalized criteria (to identify these disabilities in any consistent fashion) apply. (p. 202)

The issue is that our understanding of student variability is incorrect.

Normal Range of Variability

The question then is, if the bell-curve represents an inaccurate picture of student variability, what is realistic? Hargis wrote, "As it turns out, the students are remarkably variable and the schools have rather limited tolerance" (Hargis, 1997, p. 16). "Spache

(1976) said that sufficiently flexible, primary-level teachers can handle students that vary six months or so from exact grade placement" (Hargis, 1987, p. 4). The more realistic picture of student performance variability at any given age is two-thirds of the chronological age (Cook & Clymer, 1962). This translates, for example, into a performance range among fourth-graders, average age 9, from age 6 on the lower end to age 12 on the high end: a span of 6 years, or two-thirds of the chronological age of 9. At the upper grades, the average 10th-grader is 15 years old. Applying the two-thirds chronological-age rule to this group of 10th-grade students yields a reading performance range of 10 years, or from fifth grade to 3rd-year college performance. As studied by Carillo (1964) and reported by Gickling and Thompson (2001), data on reading achievement ranges of students from kindergarten through eighth grade demonstrate a similar degree of variation in 'normal' groups of students. For example, that study demonstrated that eighth-graders spanned as many as 10 reading grade placement years, from 3rd-to over 12th-grade reading performance, with 50% of students spanning a 5-year range in reading ability of 5th to 10th grade. All of these data represent students of normal intelligence as measured by IQ, and illustrate the fallacy of currently accepted expectations of grade-level performance.

Summarizing Hargis (1997, pp. 17-20), Tucker (1994) writes:

> Consider the normal variance between high-achieving and slow-achieving students. If we assume the limits of 'normal' can be indicated by measured intelligence, the range is between IQ = 80 and IQ = 120. These measures are based on a measure of mental age compared to chronological age. Take age six, the age at which most children enter first grade. IQ 80 = mental age of 4.8 years, IQ 120 = mental age of 7.2 years. The NORMAL variance in the measured intelligence of a homogeneous group of first graders is 2.4 years, or about 29 months (± 14.45 months) – MORE THAN TWO TIMES THE LIMIT OF TOLERANCE. And that variance increases by .2 year upward and .2 year downward each year. By the fourth grade, for example, the normal variance in measured intelligence of a homogeneous group is IQ 80 =

> mental age of 7.2 years, to IQ 120 = mental age of 10.8 years. The NORMAL variance in the measured intelligence of a homogeneous group of fourth graders is 43.2 months (± 21.6 months) – MORE THAN THREE TIMES THE LIMIT OF TOLERANCE. (pp. 22-23)

Instead of viewing these variations as deficits in the learner, they should be viewed as normal developmental ranges that give clues to improved instructional practices. Hargis (1987) wrote, "This widening range should be viewed as being as normal as the expected differences in height, motor-skill development, artistic or musical talent, etc." (p. 6). In an earlier publication on CBA, Tucker (1985) wrote,

> When the problems being experienced by a student are of the variety that lie within the common experience of most teachers, the solution that should be sought is an instructional one. Curriculum-based assessment takes a much broader brush to paint what is 'normal' in the classroom. (p. 202)

CBA Defined

CBA "first appeared as the title for one of three training modules for school psychologists published by the National School Psychology Inservice Training Network" (Gickling, 1981, as cited in Tucker, 1985, p. 200). Focusing his (Gickling, 2000) process on the dimensions of reading—comprehension, metacognition, language/prior knowledge, word recognition, word study, fluency, and responding/retelling—Gickling defines CBA as "a system for determining the instructional needs of a student, based upon the student's ongoing performance in existing course content, to deliver instruction as effectively and efficiently as possible" (Gickling, et al., 1989, pp. 344-345). It is clear in his definition that the purpose of CBA is to use the findings of the assessment to make instructional decisions. Also evident in this definition are other elements of Gickling's approach to CBA (Gickling, 2000):

1. The course content and materials are the source of the assessment.

2. The purpose of CBA is to determine the instructional needs of a student, based on the student's ongoing performance within existing course content.

3. The results of the assessment are used to inform our decisions and actions about instructional practices, not to categorize the student, or obtain a score. In the context of instructional support action plans, the results take the form of strategic decisions about teaching, learning, and curriculum, and strategies implemented by parents, students, and teachers.

CBA as applied in this manner yields much more than do standardized assessments. Gickling's process yields a depth of understanding about the following questions:

1. What does the student know?
2. What can the student do?
3. How does the student think?
4. How does the student approach what he or she is unsure of?
5. What patterns do I see in his/her performance?
6. Now, as a teacher, what do I do? (Gickling, 2000).

Gickling's CBA is different from other processes named CBA or curriculum-based measurement (CBM) (Cundari & Suppa, 1988; Deno, 1985; Elliot & Fuchs, 1997; Fuchs & Deno, 1991; Fuchs, Fuchs, Hamlett, Walz, & Germann, 1993; Idol, Nevin, & Paolucci-Whitcomb, 1999; King-Sears, 1994; Salvia & Hughes, 1990; Shinn, 2002, 1989; Shinn, Knutson, Good, & Tilly, 1992; Shinn, Rosenfield, & Knutson, 1989) in purpose, process, and outcomes. Other CBA and CBM processes, like Gickling's, rely on curriculum materials for assessment, but there are significant differences, as identified

by Burns, MacQuarrie, and Campbell (1999). The primary function of CBM is to identify the need for interventions and to monitor the effect of interventions, not to identify effective strategies and plan instruction. The purpose of Gickling's CBA is to create the conditions for optimal student learning. Gickling's CBA begins creating those conditions, the instructional match, within the assessment. His process involves identification and trial teaching of strategies within the assessment. Another difference is that CBM and other forms of CBA use their findings to develop norms against which to measure students, and even standardized measures for special education decision-making (Shinn, 1989, as cited in Burns et al., 1999; Idol et al., 1999). Gickling's CBA is completely individual, measuring the student only against himself. The CBA described by Idol et al., (1999) is a criterion-referenced assessment, the purpose of which is to help teachers formulate goals and objectives of the program. The Idol et al. CBA model requires the development of probes from the curriculum to be turned into standardized assessments that are given to all students. Acceptable levels of performance are determined, and students' scores are benchmarked against these norms. In contrast, Gickling's process requires sitting down with the child with the materials used in the class, and finding out what the child knows and can do, what the student needs, and what strategies work to teach the student what he needs. Gickling's process requires assessing at the student's instructional level in order to obtain a valid assessment, and often this requires manipulating the material to bring it to instructional level. In light of the differences between Gickling's CBA and others, it is easy to see the importance of clarifying what is meant by the term CBA. Even though the original use of the term CBA was attributed to that which Gickling developed, the confusion over the various processes

called by the same or similar names has required him to change the name of his process. The term CBA "has been usurped by so many different concepts" (J.A. Tucker, April 13, 2002, personal communication), that Gickling now refers to his concept as Instructional Assessment (Gickling, 2000). From this point forward in this study, the term CBA will refer to Gickling's process.

The Role of Instructional Level and Prior Knowledge in Student Success

A revolutionary, but not new, concept about assessment is that in order for assessment to yield an accurate picture of what the student knows and can do, assessment must be conducted at a student's instructional level. The International Reading Association and the National Council of Teachers of English Joint Task Force (1994) support this claim in the following statement:

> The quality of information is suspect when tasks are too difficult or too easy, when students do not understand the tasks or cannot follow the directions, or when they are too anxious to be able to do their best or even their typical work. In these situations students cannot produce their best efforts or demonstrate what they know. Requiring students to spend their time and effort on assessment tasks that do not yield high quality, useful information results in [a] student's losing valuable learning time. Such a loss does not serve their interests and is thus an invalid practice. (p. 14)

At the heart of CBA is placing the child within his instructional level first, in order to obtain a valid assessment of what the child knows and can do, then maintaining the child's instructional level during the instruction process so that the student can learn with optimal success. Gickling calls this creating the conditions for student success.

Student success is essential to student achievement and motivation, and, therefore, the key to effective instruction is determining the instructional level and managing instruction to keep students in this comfort zone. "The history of higher achieving

students has been one of success, of always being comfortable in their instructional materials. On the other hand, low-achievers are frequently challenged with materials above their skill level" (Forell, 1985, as cited in Hargis, 1987, p. 9). Modern educational publications and staff development initiatives lead teachers to believe that the primary student motivators are interesting, fun, engaging, learning-style conscious, and brain-compatible instructional strategies (Algozzine et al., 1997; Gardner, 1983; Jenson, 1997; Rhode, Jenson, & Reavis, 1992). While it is important to design instruction that appeals to student interest, there is evidence to suggest that competence and success are the more powerful intrinsic motivators than is interesting instruction. "Generally speaking, one of the most potent factors in motivation is awareness of small increments of growth" (Betts, 1946, p. 159). Frequent and prolonged failure causes students to become frustrated and to give up or to behave poorly. My years of experience teaching students classified as emotionally disturbed confirm Hargis's statement connecting failure and behavior: "Much of the negative behavior associated with learning disabled children is attributable to chronic failure and frustration" (Hargis, 1987, p. 6). Success is not a nebulous term, but can be facilitated for children by teachers who know what instructional match is, how to use assessment to discover it, and how to manage instruction and curriculum to maintain it.

'Instructional match' is the combination of conditions during instruction where learning is manageable yet challenging enough to keep students engaged. Called instructional match (Ysseldyke & Christenson, 1998), instructional level (Betts, 1946; Gates, 1930; Gickling & Thompson, 1985; Hargis, 1987), zone of proximal development (Vygotsky, 1978, as cited in Driscoll, 2000), and flow zone (Gross, 1991), instructional

level is the zone in which the entry skills and prior knowledge of the student are balanced within a margin of challenge that engages yet does not frustrate the child. Gickling refers to students' learning struggles as the result of an instructional mismatch, not some internal deficit in the child. "The basic problem is the gap that exists between what the student knows and is able to do (prior knowledge) and what the learning environment demands. The extent of the gap reflects the degree to which a student's responses and behaviors vary from the expectations imposed by the ever-changing curriculum and by the instruction reflecting the teaching of the curriculum" (Gickling & Rosenfield, 1995, as cited in Gickling, 2000, p. 7).

The importance of prior knowledge cannot be underestimated. Students enter every new learning situation with a level of prior knowledge. The combination of the child's prior knowledge, the demands of the task, and the demands of the curriculum material imposes a level of challenge that is unique to each child. According to Johnson and Pearson (1982), on the critical importance of prior knowledge, "prior knowledge can account for more variation in reading performance than either IQ or measured reading achievement" (as cited in Gickling, 1999, n.p.). The essential nature of assessing and engaging prior knowledge as a prerequisite to learning is confirmed by educational research (Ausubel, Novak, & Hanesian, 1978, as cited in Driscoll, 2000; Dochy, Segers, & Buehl, 1999, as cited in Gravois & Gickling, 2002; Wolfe & Brandt, 1998).

Emmett Betts (1946) first described independent, instructional, and frustrational levels. When studying the effects of vocabulary burden on reading comprehension, he noted that comprehension began to break down when the numbers of unknown words exceeded 4%. He defined instructional level as "the level of difficulty where a student

encounters no more than 4% new words and has a comprehension level of at least 95%. This is the maximum level of difficulty where a student can remain on task without symptoms of tension and frustration" (Hargis, 1987, p. 20).

Instructional level is the "magic window" (Tucker, 1994) created by the match between the prior knowledge and skills of the student, the margin of challenge posed by the content and materials, and the skills of the teacher to effectively manage instruction to keep students within their instructional level. In an enlightening study applying the work of Betts (1946) on frustrational, instructional, and independent level tasks, Gickling and Armstrong (1978) demonstrated that when reading comprehension tasks are in this narrow "magic window" of 93% to 96% known, academic learning time, as measured by time on-task, task completion, and task comprehension, is at its highest.

> The power of this study is that we can learn how to manage task difficulty to create optimal learning and teaching conditions. Our historical practice of assessing to discover deficiencies and of systematically teaching to overcome those deficiencies is flawed. Without assessing what students' prior knowledge is, it is impossible to regulate the appropriate level of challenge to reach instructional level. (E.E. Gickling, August 1999, personal communication)

Placing this concept in the context of a systems view, it can be seen that if educators fail to take into account the reality of the effect of prior knowledge and the critical nature of instructional level on a child's ability to be successful in school, educators will undoubtedly continue to perpetuate the 'fix-the-child' paradigm. In our current educational system, organized by grade-level expectations that are defined by chronological age and driven by inflexible curricula, we as educators view student-achievement disappointments as problems within the student, rather than problems in assessing the instructional situation.

> Rather than viewing a teacher or parent concern about a student as a defect within the student (a medical model paradigm) that requires extensive psychoeducational diagnosis, school-based professionals in these projects came to perceive that such problems reflected an inadequate match between the student and the setting. (Rosenfield & Gravois, 1996, p. 21)

The Role of Working Memory, Emotion, and Repetition in Assessment and Instruction

The concept of working memory is central to instructional level and therefore to assessment and instruction. Working memory is defined as that to which we are attending, that about which we are thinking and learning (Gickling, 2000). Working memory is that which we can retain in short-term memory long enough to give sufficient rehearsal so that the information can be remembered long-term. Everything that we eventually come to know at an automatic level is first in working memory (O'Neil, 1996, as cited in Gickling, 2000, p. 12). There are limits to the capacity of working memory, making it crucial that we not violate the limits either in assessing, instructing, or assigning practice. In his classic study on working memory, psychologist George Miller (1956) demonstrated that adults could recall 7 ± 2 pieces of new information at any given time. Pascuel-Leon's research (1970) yielded guidelines that distributed the limits of working memory over chronological ages, illustrating that working memory capacity develops with age. For example, a 3-year-old can retain one new piece of information, a 5-year-old two pieces, a 7-year-old three pieces, and the pattern continues to increase until the age of 15, at which point the limit of the "magic number $7 \pm$ two" is achieved. The standard telephone number of seven digits plus an area code is an illustration of this magic number 7 and of another aspect of working memory: that the capacity can be enhanced by "chunking" smaller bits of information into larger groups (Driscoll, 2000).

In addition to working memory, emotion plays an important role in learning. Emotional interference can prevent optimal performance in assessment situations, and negatively impact learning and memory (D'Arcangelo, 1998; O'Neil, 1996; Wolfe & Brandt, 1998, as cited in Gickling, 2000). Positive emotions enhance memory. Negative emotions cause "downshifting" into fight-or-flight mode, and prevent learning.

Learning is also a function of time. For maintenance of learning (automaticity) to occur, adequate amounts of relevant, contextual rehearsal of new learning is needed (Gates, 1930; Hargis, 1987; Hargis, Terhaar-Yonkers, Williams, & Reed, 1988, as cited in Tucker, 1994; Rosenshine & Stevens, 1986; Samuels, 1982, as cited in Ysseldyke & Christenson, 1998). The number of repetitions varies depending on ability level. According to Gates (1930) and Hargis et al. (1988), learners of high ability (IQ 120) require approximately 25 repetitions, learners of average ability (IQ 100) need 35 repetitions, and learners of slower ability (IQ 80) require about 55 repetitions. Practice must also be within the limits of working memory and at instructional level, so that the percentage of knowns for practice is kept between 70% and 85% (Gickling & Thompson, 2001).

Gickling and Thompson (2001) summarize the essential elements of teaching at students' instructional levels in the following five key strategies:

1. Maintain an emotionally positive and safe learning environment.
2. Place the needs of students before the needs of content.
3. Provide appropriate margins of challenge in learning activities.
4. Avoid violating the limits of working memory.
5. Provide students with time to process new information.

As will be evident in the next section, Gickling's process of CBA implements these five strategies within each 'sit-beside' – another illustration of the inseparability of assessment, curriculum, and instruction in his approach.

CBA Steps

A hallmark of Gickling's CBA is that it is a fluid and flexible process in which the assessor constantly makes instructional and assessment decisions based on what is discovered while working with the student. Gickling's process assesses these elements of reading: comprehension, metacognition, language/prior knowledge, word recognition, word study, fluency, and responding/retelling. Table 2 lists the steps of CBA, connections to the principals of CBA, reading components being assessed, and assessor's decision-making questions at periodic intervals (Gravois & Gickling, 2002).

Although listed as discrete steps, the process of CBA is a fluid one in which the assessor makes decisions about how to proceed based on the student's performance. The assessor may decide that preteaching vocabulary or word-study skills is needed before the child can be successful at reading a passage orally, or that the percentage of unknowns in the passage is too high to work with, and that the best course would be to use the child's limited vocabulary to create original stories in which the child can experience reading success. These original stories are used in the CBA process to assess progress in fluency, word study, comprehension, and metacognition in the same way that classroom curriculum would have been used. In this case, for example, the student will need work in vocabulary development and word study to close the gap between his/her prior knowledge, and the demands of the classroom curriculum.

Table 2

CBA Steps, Principles, and Reading Components Assessed

Steps	Connections to the Principles of CBA	Reading Component
1. Select the Material: select reading material from the curriculum used in the classroom. Selections may be either familiar or unfamiliar.	• Assesses the student's ongoing performance within the existing course content	
2. Build a Relationship with the student by introducing yourself and visiting with the child to put the child at ease. Tell the student what you'll be doing together in the assessment process, and that you'll be looking for what the student knows and can do, not what (s)he doesn't know.	• Emotionally safe and positive environment	
3. Assess Performance		
A. Read to the student Read to the student and ask unaided and aided questions.	• Emotionally safe and positive environment • Activate prior knowledge	• Listening vocabulary & comprehension
B. Complete a "Word Search" Using a passage in the student's comfort zone, point to words the student has a high probability of knowing, beginning with easy words and interspersing more difficult ones. Check for automatic word recognition and word meaning. Look for patterns in the student's performance.	• Assess at instructional level • Prior knowledge • Emotionally safe and positive environment	• Print-processing • Sight-word recognition • Word meaning

Table 2 – *Continued.*

Decision Question **Does the student possess the language and/or word-recognition skills to be able to comprehend the selection? If so, continue. If not work with the material to bring it to instructional level by pre-teaching vocabulary, selecting different passages, or using alternate material.**		
C. Sample content reading Ask the student to orally read a portion of the material. Do not let the child struggle: if there are some unknown words, tell them to the child. Record correct words per minute and note patterns in response.	• Appropriate margin of challenge • Instructional level • Prior knowledge	• Fluency • Word recognition • Word attack skills • Word study skills
Decision Question **What was learned about the student's general sight-word vocabulary? What word-study and reading fluency patterns did the student display?**		
D. Assess comprehension using unaided and aided questions and story retelling.	• Appropriate margin of challenge • Instructional level • Prior knowledge	• Responding/ retelling • Cognition/ metacognition • Language and vocabulary • Questioning
Decision Question **How did the student perform related to the various reading dimensions?**		
4. Match Instruction Identify reading dimensions that need immediate support.	• Margin of challenge • Instructional level • Prior knowledge • Working memory • Needs of student over content • Time to process	• Prior knowledge • Language and vocabulary • Word recognition • Word study skills • Oral and silent fluency • Responding/retelling • Comprehension • Self-monitoring/ cognition/ metacognition
Decision Question **What specific areas need immediate reading support? What are the recommended strategies to be used in those areas?**		

Table 2 – *Continued.*

5. Teach the Student Implement reading strategies targeted at the needed skills. Keep content connected. Use a balanced reading approach. Keep the student at instructional level: within an appropriate margin of challenge. Monitor and record the student's progress frequently. Continually work on developing word identification, fluency, comprehension, and metacognition skills.	• Margin of challenge • Instructional level • Prior knowledge • Working memory • Needs of student over content • Time to process • Document progress	• Prior knowledge • Language and vocabulary • Word recognition • Word study • Oral and silent fluency • Responding/retelling • Comprehension • Self-monitoring/ cognition/ metacognition
Decision Question **What fine-tuning needs to occur to ensure ongoing success?**		

Within the 7 SHARE Initiative, CBA is the most important element in impacting student performance. CBA is the process that allows teachers to establish an instructional match between the skills of students and the demands of the curriculum. CBA establishes the student's entry level, on which the 'J curve' of mastery is built for that student. Without first establishing an instructional match, even though teachers may create the most engaging lessons in the most well-designed lesson structure with exciting content and effective instructional presentations, students will not benefit from instruction. Once instructional match has been achieved, students can benefit from the specific instructional strategies targeted at improving performance in the content areas. The specific instructional strategies associated with Gickling's approach to CBA, and thus with the 7 SHARE Initiative, are the subject of the next portion of literature reviewed.

Research-Proven Instructional Practices

An effective problem-solving process is one that assesses the root cause of the problem and addresses it with instructional practices that are known to be effective. CBA (Gickling & Thompson, 1985), the instructional environment assessment (Ysseldyke & Christenson, 1998), and functional behavioral assessment (Hamilton, Topper, Williams, Leo, & Fox, 1994; Hamilton, Welkowitz, Mandeville, Prue, & Fox, 1994) are three ways within the collaborative problem-solving process used in the 7 SHARE Initiative to get to the root cause of students' achievement and behavioral struggles, and to match effective intervention strategies to the students' needs. The outcome of the assessment and problem-solving process must be an intervention plan that address the problems, specifying instructional interventions in the form of:

1. strategies students learn and implement
2. strategies teachers learn and implement
3. strategies parents learn and implement
4. changes in instructional practices
5. changes in assessment practices
6. adjustments in the curriculum and/or instructional materials
7. collaboration with other resources
8. alignment of or changes to school programs, processes, procedures, and systems.

The 7 SHARE Initiative uses specific research-based sources from which to draw effective practices and interventions in these three areas of assessment and intervention.

1. CBA's associated English Language Arts, Math, and Study/Organizational skills interventions (Adams, 1994; Adams et al., 1998; Algozzine et al., 1997; Billmeyer & Barton, 1998; Cunningham & Allington, 1999; Dombey & Moustafa, 1998; Ellis & Fouts, 1997; Farstrup & Samuels, 2002; Fountas & Pinnell, 1996; Gickling, 2000; Kagan, 1997; Miller, 1956; Pascuel-Leon, 1970; Simmons & Kameenui, 1998; Tomlinson, 1999; Tovani & Keene, 2000)

2. The instructional environment components assessment's associated strategies and practices (Algozzine et al., 1997; Ysseldyke & Christenson, 1998)

3. Functional behavioral assessment's associated behavioral, social, and resiliency skills interventions (Hamilton, Topper, et al., 1994; Hamilton, Welkowitz, et al., 1994; Henderson & Milstein, 1996; Valentine, 1987).

English Language Arts Interventions

The pendulum of pedagogical beliefs about what constitutes effective reading instruction has swung from a heavy emphasis on code-emphasis (phonics) instruction (Cunningham & Allington, 1999, p. 3) to a "literature-based, process writing" (pure whole language) approach (Cunningham & Allington, 1999, p. xiii), and appears to have landed for the time being with consensus on a balanced approach to literacy. Title II of the Elementary and Secondary Education Act (ESEA) of 1965 (20 U.S.C. 6601) was written to turn around literacy deficits in our nation. The 1998 Reading Excellence Act (REA), which amended ESEA to provide grants to states to improve reading and literacy, drew upon 30 years of reading research (Adams, 1990; Anderson, Hiebert, Scott, & Wilkinson, 1985; Fletcher & Lyon, 1998; National Commission on Excellence in Education, 1983; National Reading Panel, 2000; Snow, Burns, & Griffin, 1998) in

making its recommendations for a balanced approach to literacy that includes phonemic awareness, phonics, word recognition and spelling, fluency, vocabulary and background knowledge, comprehension, and motivation to read and write (New York State Education Department, 2001). Reading for Results, New York's REA compliance project, restated ESEA's research base, purposes, and exact language regarding effective reading instruction (New York State Education Department, 2001). In addition, New York's Reading for Results is supported by the research conducted by a panel of researchers whose work confirmed a balanced approach consensus (New York State Education Department, 1998a, 1999). The No Child Left Behind Act of 2001, the latest reauthorization of ESEA, was built upon the same research base, restated the purposes of the ESEA, and added a strong accountability and monitoring component, linking funding to the results of mandatory annual testing.

What remained constant throughout these initiatives are the definition of reading and the essential components of reading instruction as follows: "Essential Components of Reading Instruction means explicit and systematic instruction in phonemic awareness, phonics, vocabulary development, reading fluency, including oral reading skills, and reading comprehension strategies" (No Child Left Behind, 2001, [3]).

> Reading means a complex system of deriving meaning from print that requires all of the following:
>
> a. The skills and knowledge to understand how phonemes, or speech sounds are connected to print.
> b. The ability to decode unfamiliar words.
> c. The ability to read fluently.
> d. Sufficient background information and vocabulary to foster reading comprehension.
> e. The development of appropriate active strategies to construct meaning from print.
> f. The development and maintenance of a motivation to read. (No Child Left Behind, 2001, [5])

These definitions must guide the instructional, programming, and staff development decisions school districts make regarding approaches to improving literacy. The 7 SHARE Initiative is based on them.

As indicated in the 2000-2001 7 SHARE Initiative Program evaluation, throughout the first 3 years of data collection in the 7 SHARE Initiative, the most frequently identified area of student struggle is in the area of English language arts (ELA): reading, writing, listening, and speaking. Consequently, ELA is the area of the greatest amount of interventions. Gickling's CBA assesses students in these dimensions of reading: comprehension, metacognition, language/prior knowledge, word recognition, word study, fluency, and responding/retelling (Gickling, 2000). Embedded within Gickling's dimensions are all of the essential elements of reading instruction listed in No Child Left Behind (2001), as illustrated in Table 3. The strategies in which Gickling has trained ISTs meet each of these components.

These strategies are drawn from instructional resources applying the findings of recent reading research (Adams et al., 1998; Beck, McKeown, Hamilton, & Kucan, 1997; Calkins, 1994; Carr & Ogle, 1987; Cunningham, 1995; Cunningham & Cunningham, 1992; Fountas & Pinnell, 1996; Gickling, 2000; Kagan, 1997; Robb, 2000; Tovani & Keene, 2000) and from the experiences of teachers from schools in New York, Pennsylvania, Connecticut, Virginia, and Maryland who have worked with Gickling in his role as an Educational Consultant in CBA and reading instruction (Gickling, 2000). Table 3 illustrates the connection between the components of No Child Left Behind, Gickling's Reading Components, and the most frequently used ELA strategies ISTs reported using from 1998 through 2001, in each of the essential components.

Table 3

Essential Components of Reading, Gickling's CBA Components, and Strategies Used by ISTs

Essential Components of Reading Instruction (REA, NCLB, Reading for Results)	Components of Reading Instruction and Gickling's CBA Components	Frequently Used Strategies
Phonemic Awareness	Word recognition/word study	Read aloud Rhyme, rap, song, & chant Word rubber-banding Alphabet/picture sorts On-set & rhyme
Phonics	Word recognition/word study	Rainbow words Word search Pocket words Word wheels Word attack skills My stories Word sorts On-set & rhyme Making words Word walls, notebooks & banks
Fluency – speed, accuracy and expression	Fluency	Chunking/phrasing Looking for the signal Modeled reading Bump/Tag reading Impress reading Choral reading Echo reading Drop word reading Paired reading Repeated reading Timing & charting My stories Spot and Dot/Syllabication
Vocabulary	Language/prior knowledge	Hillerich word list Word search Pocket words Drill sandwich Word sorts Making words Word walls, notebooks & banks Sentence making

Table 3 – *Continued.*

Comprehension – oral, silent and listening	Comprehension, metacognition, responding/retelling	Writing process Summarizing Forming questions Question the author KWL/KWPL Sequencing Reading plan Listening skills Literature Circle Written/oral retelling Magnet words Story prediction Imagery Think aloud: inference Someone Wants But So Trio or quad reading Mental movies Aided – unaided questions Story retelling Semantic maps/graphic organizers Fan & pick Cornell notes Magnet words Snowball fight Reciprocal teaching Succinct highlighting Reading for purpose/ active reading strategies

In the instructional support process, the IST selects appropriate strategies to meet the instructional need discovered during the CBA. The IST teaches the strategies to the student and evaluates the effectiveness of the strategy in addressing the need. If the strategy is effective, the IST teaches it to the teacher(s), and, if it is appropriate for home use, to the parent.

The 'toolbox' of instructional strategies that ISTs use is ever-increasing. ISTs across the seven school districts participate in a monthly networking meeting. The network meetings are structured around subcommittees of ISTs who research strategies and teach them to each other. The strategies listed in Table 3 represent the 'basics' that ISTs begin with and use most frequently.

The Instructional Environment Components

Another aspect of assessing and intervening to improve student achievement is observing the instructional environment, comprised of instructional planning, implementation and evaluation practices that the teacher implements, the physical organization, and the social-emotional environment and its management (see Figure 1). Part of the assessment that an IST conducts is to observe the child in the classroom. The purpose of assessing the instructional environment is to determine the match between the needs of students and the instructional components present in the classroom environment. Ysseldyke and Christenson (1998) created a system to match the needs of students with the levels of challenge and the types of support needed in the instructional environment. The Instructional Environment System II (TIES II) relies on a collaborative problem-solving process (see Figure 2) that begins with gathering data about the student's performance in the curriculum (CBA), and about the instructional environment (school and home). Assessing the instructional environment involves observing the student within the context of the classroom, and interviewing the teacher, student, and parent.

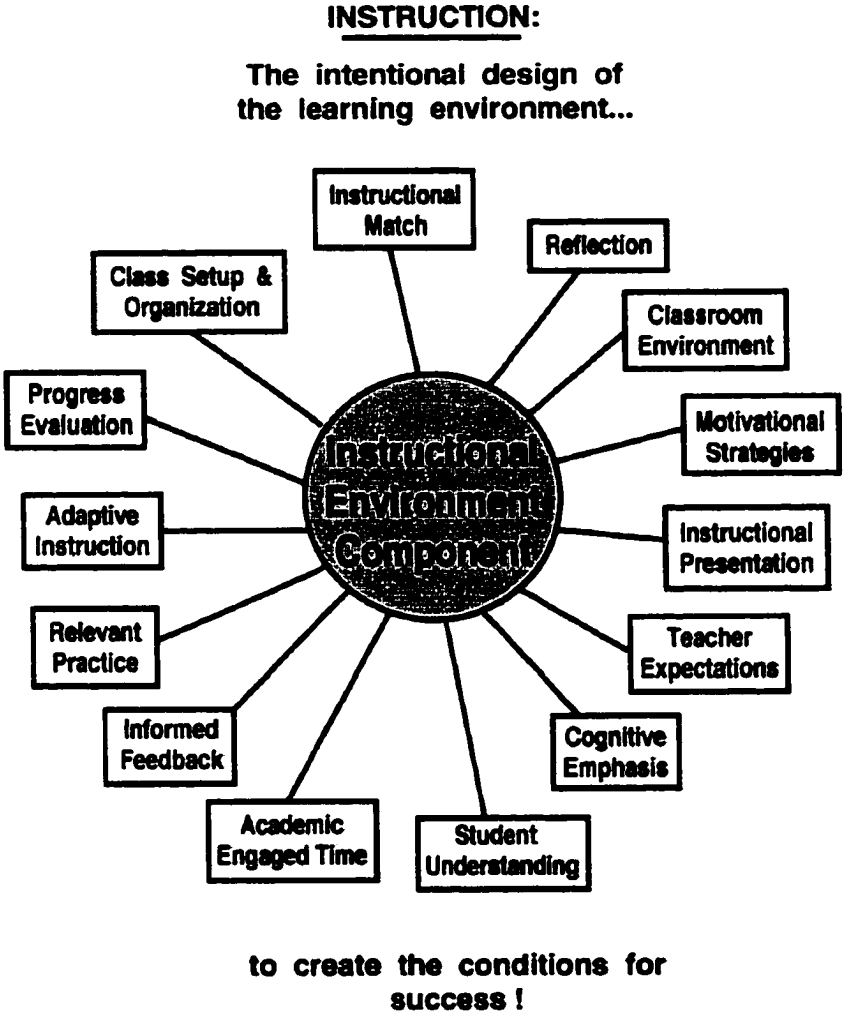

Figure 1. Components of the instructional environment. From *TIES II: The instructional environment system II: A system to identify a student's instructional needs,* by J. Ysseldyke & S. Christenson, 1998, Longmont: Sopris West.

Collaborative Problem Solving for Student Success

1. Open with Introductions & Structure

Use CBA to:

2. Analyze Student Strengths
3. Analyze Causes of Success (refer to 14 TIES components)
4. Analyze Areas of Concern or Patterns
5. Select a Priority Concern or Pattern
6. Determine Root Cause
7. Identify Strategies that address Root Cause/Priority Concern
8. Select Strategies for Trial Teaching
9. Design an Intervention Plan with Evaluation
10. Communicate, Implement & Evaluate

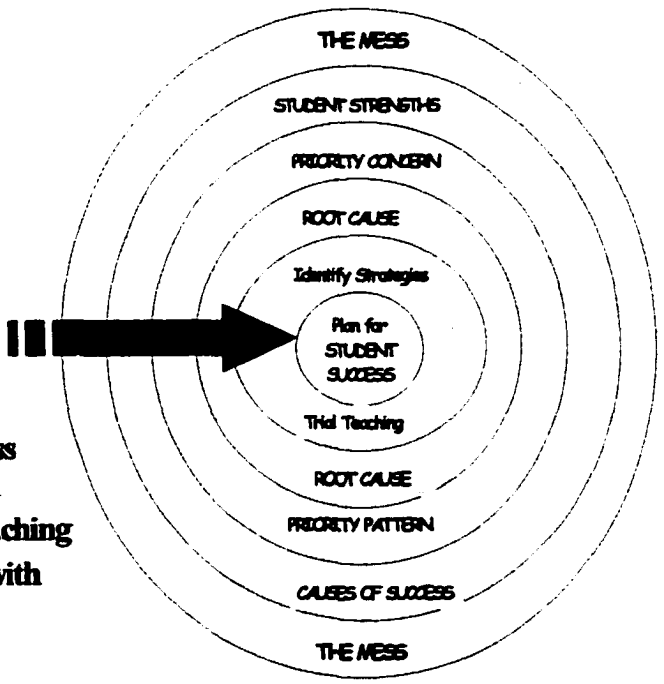

Figure 2. Collaborative problem solving for student success. From J. Papandrea and B. Walkley, November 2001. Model created for classroom intervention team training, SCT BOCES, Elmira, NY. In my possession.

Yssledyke and Christenson (1998) base TIES II on two premises.

1. "No student assessment can be considered complete without an assessment of the student's instructional needs in the context of classrooms" (Ysseldyke & Christenson, 1998, preface).

2. Environmental contexts for learning are multi-faceted, interrelated, and complex.

The focus of meeting student needs is on encouraging adults to facilitate an appropriate response from the student by attending to the degree to which particular components of the instructional environment are needed by the student and are present in the environment.

In developing the TIES system, Ysseldyke and Christenson reviewed and analyzed the literature on school effectiveness, teacher effectiveness, instructional effectiveness, school reform, academic outcomes, student cognitions, teacher decision-making, models of school learning, and instructional psychology. From this literature, they listed factors correlated with positive academic outcomes for students. Using the following criteria, they reduced the list from over 200 factors to 40.

1. The factor was mentioned repeatedly in the literature as important for improving academic progress and outcomes.

2. The factor was easily observable.

3. The factor had empirical evidence of effectiveness in model teaching programs.

The 40 factors were organized into 22 categories based on a framework from the effective-instruction literature. The 22 components were developed into a scale and used

in school settings, revealing redundancies, which, when removed, reduced the list to a 12-component scale, used in TIES I. From the updated literature used to develop the revised TIES II, 14 components of the Instruction Environment are presented (Figure 1). The components are derived from correlates of academic achievement found in the following literature.

1. Instructional Effectiveness Literature
    a. Effective Instruction Factors
    b. Characteristics of Effective Teaching Programs
        i. Direct Instruction
        ii. Mastery Learning
        iii. Active Teaching Model
        iv. Texas First Grade Reading Group Study
        v. Exemplary Center for Reading Instruction (ECRI)
        vi. Cooperative Learning
    c. Correlates of Academic Achievement:
        i. Time
        ii. Instructional Match
        iii. Teacher Expectations
        iv. Lesson Presentation
        v. Assigned Tasks
        vi. Practice
        vii. Classroom Management
        viii. Opportunity to Learn

d. Categorical Comparisons

2. Home Environment Correlates

a. Home Support for Learning

b. Parent Involvement

c. Match Between Home and School Influences

d. Family Influences:

i. Parent Expectations

ii. Parental Attributions

iii. Homework

iv. Verbal Interaction

v. Modeling of Reading

vi. Television Viewing

vii. Parent-Child Interaction

viii. Discipline

ix. Home Learning Activities

3. Home-School Collaboration.

The collaborative problem-solving process they developed uses these components in gathering information and planning instructional interventions. The authors have used the 14 components in data-gathering tools, in observation tools, and in interview questions used to gather information from teachers, parents, and students. As a whole, the TIES II provides a wealth of information about effective instruction, and is a tool that has proven useful to ISTs and CIM teams. The 14 components are listed and defined in Table 4.

Table 4

Definitions of the Components of the Instructional Environment.

Instructional Presentation	Instruction is presented in a clear and effective manner; the student understands what kinds of behaviors or skills are to be demonstrated; and the student's understanding is checked before independent practice.
Classroom Environment	The classroom is controlled efficiently and effectively; there is a positive, supportive classroom atmosphere; time is used productively.
Teacher Expectations	There are realistic, yet high expectations for both the amount and accuracy of work to be completed, and these are communicated clearly to the student.
Cognitive Emphasis	Thinking skills used in completing assignments are communicated explicitly to the student
Motivational Strategies	The teacher ensures all students are kept within their instructional level and uses effective strategies for heightening student interest and effort.
Relevant Practice	The student is given adequate opportunity to practice with appropriate materials. Classroom tasks are clearly important to achieving instructional goals.
Academic Engaged Time	The student is actively engaged in responding to academic content; the teacher monitors the extent to which the student is actively engaged and redirects the student when the student is unengaged.
Informed Feedback	The student receives relatively immediate and specific information on his/her performance or behavior; when the student makes mistakes, correction is provided.
Adaptive Instruction	The curriculum is modified to accommodate the student's specific instructional needs and learning styles.
Progress Evaluation	There is direct, frequent measurement of the student's progress toward completion of instructional objectives; data on pupil performance and progress are used to plan future instruction.
Instructional Match	The student's needs have been assessed accurately, and instruction is matched appropriately to the results of the instructional diagnosis.
Student Understanding	The student demonstrates an accurate understanding of what is to be done in the classroom.

Table 4 – *Continued.*

Classroom Setup and Organization	The physical space and the location of instructional materials have been analyzed to provide maximum instruction and minimum disruptions.
Reflection	Time is designated to provide students the opportunity to reflect on content and connect to what he/she already knows.

Note: Adapted from TIES II: The instructional environment system II: A system to identify a student's instructional needs, by J. Ysseldyke & S. Christenson, 1998, Longmont: Sopris West.

ISTs and members of the Classroom Intervention Model (CIM) team use the 14 components as the process for conducting classroom observations and as the main source of classroom instruction and management interventions. They look for the match between the demands of the task, the components present, and the entry level of the child into the task (the child's prior knowledge and current skills). Algozzine et al. (1997) developed a companion to TIES that serves as a significant source of instructional interventions for each of the 14 components. Using CBA as the primary source of data in the problem-solving process, and integrating the TIES components, educators can systematically examine the situation and develop interventions that are instructional in nature, and research-based. Using CBA and TIES effectively requires that teams operate as "systems-thinkers" rather than "filter-changers."

Functional Behavioral Assessment's Associated Interventions

New York State's Regulations of the Commissioner of Education require that when a student exhibits a pattern of inappropriate behavior that interferes with the education of that student or others, the school must intervene. The process of intervention in behavioral needs parallels that of academic intervention. It begins with an

assessment, proceeds through a collaborative problem-solving process, and leads to interventions implemented by the student, the teachers, and the family. Just as the CBA seeks the learning root cause of a student's challenge, and the instructional environment observation seeks the learning environment factors in the student's challenges, Functional Behavior Assessment (FBA) is a process of getting to the root cause of a student's behavioral difficulties.

As indicated in the New York State Education Department's definition of FBA, behavior difficulties are rarely isolated from learning challenges, and must be assessed in conjunction with learning issues.

> Functional behavioral assessment is the process of determining why a student engages in a behavior and how the student's behavior relates to the environment. Functional assessments describe the relationship between a skill or performance problem and variables that contribute to its occurrence. Functional behavioral assessments can provide the CSE (Committee on Special Education) with information to develop a hypothesis as to:
>
> - Why the student engages in the behavior
> - When the student is most likely to demonstrate the behavior; and
> - Situations in which the behavior is most likely to occur. (New York State Education Department, 1998b, p. 3)

This type of assessment often involves reviewing curriculum, instructional, and motivational variables in relation to a student's behavior, and examining classroom arrangements, individuals present, physical health issues, instructional content, and work demands. A functional behavioral assessment should minimally include identification of the problem behavior, definition of the behavior in concrete terms, identification of the contextual factors that contribute to the behavior (including affective and cognitive factors), formulation of a hypothesis regarding the general conditions under which the behavior usually occurs, and probable consequences that serve to maintain it. The

process we use for assessing and intervening in behavioral issues combines the positive approach to students with challenging behavior developed by Ruth Walker Hamilton and her colleagues at the University of Vermont (Hamilton, Topper, et al., 1994; Hamilton, Welkowitz, et al., 1994), with the resiliency research developed into school interventions by Henderson and Milstein (1996). The process and steps of assessing and intervening in behavior issues proceed as follows:

1. Define the strengths of the student (social, academic, physical, talents):
    a. In what conditions and settings is the student successful?
    b. What environment, instructional, and relational factors cause the student to succeed?
2. Define the problematic behaviors in specific descriptive, observable, measurable terms (not "is disruptive"):
    a. How frequently does the behavior occur (e.g., 1 time per class; 1 time per day)?
    b. How long does it last?
    c. How intense does it get (e.g., words under breath when teacher gives direction, or student swears and refuses to follow the directions of the teacher)?
    d. In what conditions and settings is the behavior most likely to occur (e.g., when asked to participate in a cooperative group, the student refuses to work with the group)?
    e. At what time of day is the behavior most likely to occur?
    f. Does the student have the skills demanded for the task (social, academic, physical, problem-solving, etc.)?

3. What is the communication of the behavior?

    a. Why does the behavior occur?

    b. What need is the child filling? (attention, self-regulation, escape/avoidance, revenge, control, play [Hamilton, Topper, et al., 1994; Hamilton, Welkowitz, et al., 1994])

4. Identify prevention strategies (e.g., resiliency plan [Henderson & Milstein, 1996])

5. Identify replacement behavior that has the same communication (e.g., teach awareness of and effective use of non-verbal communication)

6. Identify strategies for teaching the new behavior (e.g., use social role-play scenarios to teach appropriate conflict communication)

7. Identify strategies for adult responses to inappropriate behavior (e.g., assist student in reviewing behavior plan and making a restitution)

8. Plan a schedule for assessing the effectiveness of the plan.

ISTs and school CIM teams routinely conduct a CBA to discover what impact academic struggle has on the inappropriate behavior being observed. They then follow the FBA process in conjunction with the behavioral interventions recommended by Hamilton, Topper, et al. (1994) and Henderson and Milstein (1996) to positively and proactively intervene when students struggle with behavior.

As discussed in this chapter, the three bodies of literature on which the 7 SHARE Initiative was built are Instructional Support, Curriculum-Based Assessment as developed by Gickling, and research-based instructional strategies. This study will chronicle the details of how the practices from these three literature-bases were woven together to

fashion a school reform initiative implemented in seven school districts in New York State, whose goals were to improve student achievement, to prevent student failure, and to prevent unnecessary referrals to special education. This study will examine the 7 SHARE Model, the specific instructional interventions implemented, and the impact of those interventions on the students who were served in the model during the 1999-2000 school year.

CHAPTER 3

THE 7 SHARE INITIATIVE: THE STORY OF OUR SYSTEMS CHANGE JOURNEY

Background

Important to this study is the history of how the 7 SHARE Initiative began and how it has progressed. The value of telling the history lies in the power of systems-thinking and shared vision in changing outcomes for students. Peter Senge writes that systems-thinking is necessary to keep change from being more than separate gimmicks or the latest organization fads. Systems-thinking "makes understandable the subtlest aspect of the learning organization" (Senge, 1990, pp. 12-13). Systems-thinking is "developing awareness of complexity, interdependencies, change and leverage" (Senge, 2000, p. 77). Lasting impact on events is made only by studying and changing the hidden parts of the system, the "invisible fabrics of interrelated actions, which often take years to fully play out their effects on each other" (Senge, 1990, pp. 12-13). Michael Fullan (1993) reminds us that education has a history of latching on to innovation fads. For example, the 1960s were an era in which we poured great effort and money into large-scale national initiatives in curriculum, school design, and instruction. Fullan (1993) points out that since the 1960s, we have continued to struggle with new innovations, staff development initiatives, high-stakes testing, measuring results, various approaches to

educational reform, mostly mandated and regulated; in short, "large-scale tinkering" (p. 2). We have, however, been disappointed with the results.

Fullan (1993) writes that what we need is a new mind-set for change. Referencing Peter Senge's *The Fifth Discipline*, Fullan presents the Greek word *metanoia* as the way we must define the concept of change: 'a fundamental shift of mind' (p.3). This definition of change enables us to see the complexity of change. To change the system, people must change their mental models, sometimes their beliefs, their visions, their communication loops, and subsequently their practices. Senge (1990) writes that shared vision is essential to effective change. The goal of shared vision is creative momentum in the organization to move forward and to innovate. Careful attention to the creation of a shared vision "fosters a commitment to the long term" (p. 12) and "enrollment rather than compliance" (p. 9). The telling of the history of the 7 SHARE Initiative reveals the deliberate work of the seven school districts of the SCT BOCES to examine and change their mental models, beliefs, communication loops, and practices, to develop a shared vision for an aligned system that will result in improved outcomes for students.

The Schuyler-Chemung-Tioga Board of Cooperative Educational Services (SCT BOCES) is one of 38 BOCES established through a 1948 New York State law entitled the Intermediate School District Act, which enabled schools within a specified geographic area to partner by sharing the costs of educational services and programs. Beyond simply sharing services and the costs thereof, the seven school districts of the SCT BOCES have a history of working collaboratively toward developing shared vision and regional goals and programs to serve the common good of students. The 7 SHARE

Initiative is an example of a region-wide commitment to a unified direction of systems-change for student success. I am the regional coordinator of the 7 SHARE Initiative. It is my job to guide the creation of the initiative, and to coordinate and direct its implementation according to our prescribed design, to be detailed in this chapter. It is also my responsibility to lead the data collection and program evaluation activities associated with the initiative. The challenges that this involvement presents for maintaining research integrity are addressed in chapter 4.

Beginnings

During the 1993-94 school year, the seven districts in this study began to act on a shift in thinking that had begun to take place, regarding how to provide a free appropriate public education, in the least restrictive environment, to students with disabilities. Since before the passage of P.L. 94-142 in 1975, these school districts, like many across the nation, had been viewing education for students with disabilities from within a specialist/expert model. This translated into the creation of large, centralized special education systems, run in New York State by BOCES. Districts sent their students with disabilities, even those with learning disabilities, to be educated in BOCES-run programs. They gave up the direct control, deferring to the "experts." In most cases, the local districts relied on the BOCES to provide education for all of their special education students, including students with mild learning disabilities whose only service need was resource room support, in centralized locations. Beginning in the 1993-94 school year, these districts began taking back their students, beginning with the mild-to-moderately disabled students, to be educated in their own district-run programs. Also during that school year, the BOCES Special Education leadership changed. The new Director of

Special Education believed that the role of BOCES should be to assist local school districts in developing their own special education programs. The role of the SCT BOCES shifted from selling services to districts, to supporting the movement of students to quality district-run programs, and collaborating to create a shared vision for special education across the seven districts. Data on the numbers of special education staff employed by the SCT BOCES demonstrate the magnitude of the shift of ownership to the districts. During the 1992-93 school year, the year before school districts began to take their students back to district-run programs, BOCES employed approximately 294 staff in its special education division. Included were special education teachers, special education teacher-aides, supervisors, speech teachers, adaptive physical education teachers, music, art, and industrial arts teachers, teachers of the visually impaired, social work assistants, mental health assistants, psychologists, nurses, and occupational and physical therapists. As of September of 2002, that number had decreased to approximately 193 staff (Rosettie, 2002).

First Steps in Systems-Thinking

In May of 1995, Dr. James Tucker, Professor of Educational Psychology at Andrews University in Berrien Springs, Michigan, and former Director of the Bureau of Special Education for the Pennsylvania Department of Education, was the featured speaker at the New York State Special Education Training and Resource Center (SETRC) Meeting in Albany, New York, which I attended. Dr. Tucker presented "Special Education: Past Present and Future" (Tucker, 1994), a presentation first delivered as his keynote address at the 1993 14th National Institute on Legal Issues of Educating Individuals with Disabilities in Miami Beach, Florida (Tucker, 1993b). This presentation

contained the research foundation on which the special education reform initiatives that had been developed and implemented under his leadership in Pennsylvania were built. The presentation was compelling as a comprehensive and accurate picture of the history of special education in our nation, and its unintended negative consequences. Among these negative consequences were escalating referrals, escalating cost, centralization and bureaucratization of the system, schools' over-reliance on special education as the best system to serve high-needs students, and its failure to produce academic achievement for the large numbers of students it served. The research Dr. Tucker presented (Tucker, 1993b) illustrated the need for complete systems change away from special education's traditional deficit model, toward a proactive general education system of instructional intervention for struggling students and in-classroom instructional support for their teachers.

Because Dr. Tucker's vision aligned with the emerging vision of the special education leaders in the region, I shared his research with them. During their June 1995 session, the Committee on Special Education (CSE) Advisory Committee developed a 3-year regional improvement plan and goals. Goal #2 was "to explore our service delivery model with the goal of developing ways to deliver support within the regular education environment" (SCT BOCES Regional Committee on Special Education (CSE) Advisory Committee, 1995, p. 3). The dual focus of this goal was the development of a general education instructional support system and less restrictive service to the current special education population. A subcommittee was formed to explore various models of prereferral intervention. Because the Pennsylvania Instructional Support Model was

founded in educational research that had stood the test of practice over time, the committee selected it as the base on which to build their system of instructional support.

In November of 1995, the CSE Advisory Committee invited Dr. Tucker to assist in their systems-change efforts by presenting a 2-day region-wide seminar for general and special education administrators and teachers. Beginning in November of 1995, with a handful of local leaders who caught the vision of a system that focused on teaching and learning rather than sorting, selecting, classifying, and placing students, the SCT BOCES SETRC and School Improvement Program (SIP) collaborated in the development of The Classroom Intervention Model (CIM). Concurrently, regional special education leadership began working diligently to move students from BOCES-operated programs to district-operated programs.

The Classroom Intervention Model

In its initial phase, CIM was a retraining of school-based Child Study Teams. Child Study Teams in New York State served primarily to screen students referred for special education evaluation. The CIM paradigm moved teams toward a prevention function of collaborative problem-solving for instructional interventions and support within the general education classroom. From July through November of 1996, CIM Teams from 10 of the 36 schools in the seven districts, plus two programs from BOCES, were trained and given in-school technical assistance.

The original CIM Model had two components. The first was the development of multi-disciplinary teams from schools, both entirely new teams and expanded Child Study Teams. The second was the creation of a regional team of special educators and related service providers employed by the SCT BOCES, who could assist school teams,

upon request, in their prereferral intervention problem-solving process. This BOCES team consisted of special education teachers specializing in the areas of autism, emotional disabilities, and related services. Their value was in helping schools successfully educate students with disabilities in general education settings within their home schools.

All teams were trained in the following components:

1. Collaborative teaming

2. Data gathering, data analysis, problem-solving, facilitation of team processes, and individual student-support planning skills

3. Instructional components: teaching/learning research (Ysseldyke & Christenson, 1998), learning styles, curricular and instructional adaptations

4. Developing individual student behavior support plans (Hamilton, Welkowitz, et al., 1994).

The goal was to develop teams of people who could collaborate to assess the match between the struggling student and the elements of the instructional environment, and then make instructional recommendations, supporting the teacher in the implementation by modeling and co-teaching. The early CIM process was loosely fashioned after the Pennsylvania IST process. CIM did not yet include the Instructional Support Teacher position.

During the 1996-97 school year we began to gather data about the kinds of interventions teams were using, and we provided some in-school follow-up training and technical assistance to teams. Teams reported summaries of their interventions to us. Their reports summarized (a) Total number of students who received interventions, (b)

Nature of the Problem, (c) Nature of the Intervention(s), and (d) Results of the Intervention(s). The paper reports were in the form of checklists, with room for narrative additions. In the first year, teams from 11 schools and two BOCES programs reported a total of 33 student interventions between November of 1996 and June of 1997. By June of 1999, a total of 27 teams submitted 180 student intervention reports.

Systems-Thinking Grows

In September of 1997, the seven superintendents of the SCT BOCES school districts were awarded an Efficiency Study Grant from the New York State Education Department to study the efficiency of the special education delivery system in the region. The goals stated in the original grant application were to:

1. Increase the number of students with disabilities who are educated with their non-disabled chronological-age peers
2. Decrease the number of misidentified, misclassified, and misplaced students
3. Reduce special education costs.

Again our region chose Dr. Tucker as the primary consultant, and contracted with him to conduct an initial feasibility study. In December of 1997, Dr. Tucker began the study, gathering classification, referral, and placement data from districts and visiting schools to interview staff and observe programs and instruction. In May of 1998, he delivered his final report to the superintendents. Tucker found a consistent commitment to collaboration among the seven districts and between the districts and the BOCES. He reported, "The expressed desire of the leadership in the districts is for an effective schools program which fosters success for all students, including those with disabilities, even those with more severe disabilities," and "the desire by every district for a

comprehensive screening system which addresses the needs of all students" (Tucker, 1998, p. 3). Tucker reported inefficiency in the processing of referrals to special education as indicated by the discrepancy between numbers of students referred for evaluation for special education, and the number who actually qualified and were classified. He reported that the districts' total number of students receiving special education services were high by state and national norms (Tucker, 1998). In visits to our schools, Dr. Tucker looked for evidence of research-proven best practices, specifically the four practices demonstrated effective within classrooms over time in raising student achievement, as cited in the research of Ellis and Fouts (1997):

1. Mastery Learning
2. Direct Instruction
3. Cooperative Learning
4. Authentic (Curriculum-Based) Assessment.

With the exception of CBA, he reported the existence of these sound instructional practices in pockets within the seven districts, but a need for sharing of those best practices across the region for a more widespread application.

Dr. Tucker recommended that we add to our CIM Model, full-time ISTs at a ratio of 1/500 at the elementary level, and 1/1000 at the secondary level, working in conjunction with trained CIM teams in every school. This recommended ratio was based on his experiences in the development and implementation of the Instructional Support concept in the state of Pennsylvania. He shared documentation of the success of Instructional Support in Pennsylvania in lowering referral rates and improving success

for at-risk students (Kovaleski et al., 1996), while proving cost-effective (Hartman & Fay, 1996).

The Local Vision Expands

The seven superintendents and the BOCES District Superintendent unanimously agreed to implement Tucker's recommendations. I was named the coordinator of the regional systems-change initiative and we began the work of implementing these seven action steps recommended in Tucker's report (Tucker, 1998, p. 4):

1. Establish a Districts Seven Implementation Council (DSIC) that has no more than two representatives from each district and the BOCES.

2. Using the DSIC, create a 5-year strategic plan for meeting the needs of all students in the seven districts.

3. Establish a building-based data-collection system that is student-specific and instructionally relevant.

4. Obtain a hold-harmless agreement from the State Education Department to maintain special education funding at current levels.

5. Conduct combined training across districts.

    a. District/BOCES provide training in best practices already present, e.g., mastery learning and direct instruction.

    b. BOCES coordinates the training in new skills, e.g., curriculum-based assessment.

6. Prepare at least biannual reports of implementation that contain both formative and summative evaluations.

7. Prepare for publication at least annual reports of implementation.

The Task Force named our model The 7 SHARE Initiative: Supporting & Helping to Affect Regional Education. The group developed and presented to the superintendents a shared vision and goals for the work of the task force.

1. Shared Vision:
    a. Successful practices shared across districts
    b. Classroom-based professional development in areas that have proven to be effective
    c. Schools communicating change processes that work
    d. Data-driven decision making
    e. Literacy as a major focus in all learning environments
2. Goals:
    a. Develop a long-range plan to implement the shared vision.
    b. Articulate data and method of collection.
    c. Plan and deliver professional development that supports the vision.
    d. Explore and share models that build infrastructures that promote effective instruction.
    e. Develop communication vehicles to parents and community.
    f. Assess data on at least an annual basis to determine effectiveness of the efforts.
    g. Develop a model that could be replicated statewide.

Action and Commitment Refine and Expand the Shared Vision

The superintendents accepted the work of the Task Force, and developed a subcommittee of the superintendents' group to petition the New York State Education

Department for fiscal support for the start-up of the 7 SHARE Initiative. Expansion of their shared vision of change beyond the original, more-limited scope related to special education containment and increased placement of students with disabilities in less restrictive environments is evident in the purpose and goals this subcommittee articulated in its proposal to the New York State Education Department.

1. Purpose:
    a. Raising standards for all students
    b. Building capacity for all teachers
    c. Containing the cost
    d. Linking to New York State standards and initiatives
2. Goals:
    a. To prevent students from moving into special education
    b. To return students from special education to regular education
    c. To support students with special needs in regular education
    d. To support teachers of students with special needs

The superintendents received the fiscal support of the State Education Department, on a year-by-year basis, contingent upon the results demonstrated in our data. The support came in three forms.

1. A $60,000 training grant was awarded to support the specific guided-practice staff-development model for ISTs and teams.

2. A Co-Ser (Cooperative shared Service agreement between a BOCES and two school districts, approved by New York State education law and regulation) was

approved that granted state aide on the cost of long-term substitutes to replace teachers who left their classrooms to become ISTs.

3. Districts were held "Save-Harmless" regarding their special education funding: they were granted the same level of special education funding throughout the phase-in of instructional support as they received the year prior to its implementation. This supported the implementation of prevention efforts by allowing districts time to realize reductions in referral rates to special education without the effect of punishing their efforts by loss of revenue.

Results of our first 2 years of implementation received the support and attention of the State Education Department (Papandrea, 2000). As a result, state leaders supported our phase-in for a total of 3 years.

With the fiscal support of the state and with Tucker's recommendations, in September of 1998 the districts began the 5-year phase-in of the 7 SHARE Initiative. They began by selecting nine pilot schools: one elementary school from each of the seven districts plus one middle school and one high school from the region. Districts selected ISTs from each pilot school, using the criteria described in the following section to guide their selection.

Instructional Support Teacher (IST) Job Description

The purpose of the 7 SHARE Initiative is to prevent student failure by bringing instructional support to students and teachers within the classroom. An IST is a teacher who serves as a support to individual students who are at risk of failing, and to their classroom teachers. The IST has no classroom or caseload of students. Working with CIM and grade-level teams, through a student data-informed problem-solving process,

the IST assists students who are struggling or failing, and assists teachers in the school, through the following activities:

1. Identifying students who are failing or are at risk of failing
2. Conducting curriculum-based assessments to discover the individual student's instructional level and learning needs
3. Identifying instructional strategies and practices that meet the student's needs
4. Teaching strategies to the students and to teachers
5. Modeling class-wide applications of these instructional strategies and practices within the classroom, for implementation by the classroom teachers
6. Supporting teachers in the implementation of effective instruction in classrooms throughout the school
7. Encouraging and facilitating networking among teachers within each school
8. Assisting grade-level and building CIM teams in developing effective team practices
9. Developing a system of documenting student interventions for communication with teachers and parents
10. Gathering and reporting appropriate systems data

As part of the 7 SHARE Initiative, ISTs agree to full participation in:

1. IST training delivered through the SCT BOCES
2. CIM team training with the building CIM team, delivered through the SCT BOCES
3. Monthly in-classroom guided-practice with regional IST trainers
4. Monthly regional IST Network meetings

5. Delivery of related staff development within the school and the region, as requested and agreed upon.

Qualifications for ISTs are primarily qualities, with the exception of the certification criteria.

1. Teacher certification
2. Strong language arts background
3. Strong background in learning styles
4. Strong background in instructional adaptation
5. Involved in on-going staff development
6. Committed to 7 Share Task Force Vision of prevention and intervention
7. Willing to commit to on-going training
8. Willing to commit to a long-term position
9. Skills and willingness to provide on-site staff development
10. Creative thinker, problem-solver
11. Respect of colleagues
12. Strong collaborative/people skills
13. Strong organizational skills
14. Strong communication skills
15. Open to change
16. Leadership skills.

With the selection of ISTs, the seven districts and the BOCES began the scheduled 5-year phase-in as displayed in Table 5.

Table 5

Regional IST Staffing Phase-in: Number of Added ISTs Each Year, June 1998

	Elmira	Elmira Heights	Horse-heads	Odessa-Montour	Spencer-VanEtten	Watkins Glen	Waverly	Totals
1998-1999	2	1	1	1	1	1	2	9
1999-2000	3	0	2	0	1	1	0	7
2000-2001	2	1	1	1	0	0	0	5
2001-2002	3	0	1	0	0	0	0	4
2002-2003	3	0	1	0	0	0	1	5
Totals	13	2	6	2	2	2	3	30

Program Evaluation Process

In 1998 the 7 SHARE Task Force established a comprehensive program evaluation process, including both internal and external evaluators, observing teacher practice and perception, regional demographic data relative to classification, referral, and placement rates, student intervention data from ISTs and CIM teams, and IST activity data. Table 6 illustrates the complete picture of the variety of data sources used in the annual evaluation process to answer the three evaluation questions listed. The sources and types of data used in the annual evaluation are listed across the top of the table. The three research questions the evaluation process seeks to answer across the data sources are listed in the left column. The current study uses only a portion of the data represented in this table, as detailed in chapter 4. The evaluation process is an ongoing collaboration between the Classroom Intervention Coordinator, BOCES Data Analysis Specialist,

BOCES Administrator of Professional and Organizational Development, Spencer-VanEtten Director of Instructional Support, Syracuse University evaluators, the ISTs, and leaders from each of the seven school districts. The evaluation process is described in detail in chapter 4.

Table 6

7 SHARE Initiative Program Evaluation: Research Questions and Data Sources

	Data Sources				
Research Questions	Interviews Surveys Focus Groups		Data Reports		
	Video Interviews with Participants (2000-2001)	Syracuse University Evaluation Interviews Surveys Focus Groups (1998-2000)	IST Student Intervention Data Reported On-line (1998-2001)	IST Activity Data Reported On-line (1998-2001)	Regional Demographic Data (1998-2001)
What is the impact on individual students?	Teachers Principals Parents Students	Teacher Perceptions and Practice	Student Intervention Reports Student Assessments	Student Contacts Parent Contacts Classroom Delivery of Strategies	Referral rate Classification rate Placement data
What is the impact on teachers?	Teachers Principals Parents Students	Teacher Perceptions and Practice	Student Intervention Reports	Staff Contacts Classroom Delivery of Strategies & Support Staff Development IST/Team Contact	Referral rate Classification rate Placement data
What is the impact on the system?	Teachers Principals Parents Students	Teacher Perceptions and Practice	Student Intervention Reports	All of above	Referral rate Classification rate Placement data Cost analysis

7 SHARE Initiative: The Model

Vision and Purpose

The vision and purpose of the 7 SHARE Initiative is this:

Imagine schools where every educator:

1. can clearly articulate what students need to know and be able to do,
2. has the skills to assess the gap between where students are and where they need to be, and where
3. learning these skills is embedded within the classroom.

In this vision all educators view students as entering any new learning at a readiness level described in terms of prior knowledge and skill, rather than in terms of norm-reference, student deficit, or giftedness. All educators have the skills to set rigorous yet attainable goals and to move students toward these goals, always keeping the learners within the instructional match. In this vision you would see educators networking professionally, giving their skills away as instructional supporters to each other, and the full staff setting measurable, continuous improvement goals for the systems within the school needed to support this vision. These are the schools that have fully implemented 7 SHARE.

The 7 SHARE Initiative is a profound systems change that has challenged the traditional special education and staff development paradigms. Employing an instructional support model, the 7 SHARE Initiative is a research-based, data-driven delivery system that addresses three critical educational systems-improvement questions (McNamara, 2001):

1. What if we really organized schools around teaching and learning instead of sorting and selecting, classifying, and placing students?

2. What if we focused on continuous improvement instead of deficit-driven processes?

3. What if we promoted a collaborative model that creates a strong professional network within each school, while moving educators out of isolated cells and passive staff-development experiences?

The 7 SHARE Initiative is designed to help teachers raise student achievement within a standards-based system, and at the same time meet the diversity of student needs. The purpose of the initiative is to raise student achievement and prevent student failure and inappropriate referrals to special education, by intervening instructionally with students who are struggling, and by bringing job-embedded staff development to the classroom. The 7 SHARE Initiative changes traditional thinking about instruction, assessment, intervention and prevention of academic failure, and staff development. Instead of sending struggling students to separate locations for services, and sending teachers out of their classrooms for training, the 7 SHARE Initiative brings support for teachers and students to the location where teaching and learning take place: the general education classroom.

Instructional support is a way of operating in schools that turns the nature of what we each do into that of helping: helping students and helping fellow educators. The primary purpose of instructional support is to create the conditions within the school and within each classroom for all students to succeed. Instructional support requires collaborative problem-solving around the issues of teaching, learning, and assessment. The essential foundations of instructional support are:

1. Curriculum-based assessment

2. Collaborative problem-solving

3. Research-proven instructional practices

4. A guided-practice approach to staff development through in-classroom modeling of practices and strategies.

Instructional support is a process that helps educators to effectively discover the root cause of a student or group of students' failure to achieve, and to develop and support the implementation of instructional interventions within the classroom that will turn struggle and failure into success.

What Instructional Support Looks Like

The model requires Instructional Support Teachers (ISTs) in each school district, at a ratio of 1/500 at the elementary level and 1/1000 at the secondary level, to work in a collaborative problem-solving process with trained CIM teams. These extensively trained ISTs conduct instructional assessments, teach instructional strategies to the student, model these strategies for teachers to use in class-wide applications, and provide in-class support to teachers as they become independent in applying these new practices. ISTs also provide in-classroom and cross-grade support to teachers for the implementation of strategies and practices that will increase the achievement of large numbers of students. Practices include direct and explicit instruction in reading, writing, listening, speaking, math, and thinking strategies, as well as cooperative learning practices, instructional strategies to improve test-taking, note-taking, and study and organizational skills. Strategies used are based in sound educational research, and are aligned with the federal No Child Left Behind guidelines for research-based reading instruction. ISTs learn and share new strategies at monthly network meetings.

How Instructional Support Works

There are two forms of Instructional Support, both of which must be present in each school: (a) interventions with individual students and (b) systems interventions at the grade, cross-grades, school-wide, and ultimately district-wide levels. The process of intervention works both for individual students and for groups of students.

Individual Student Interventions

When a student or group of students is struggling academically, socially, or behaviorally, and the teachers' attempts at preventing the student's failure have not been successful, the teacher(s) make a request for assistance either to the IST or to the CIM team. The student and/or his/her parent also may make a request. The IST and members of the team gather more information, conduct a CBA, select strategies that will address the need, and teach those strategies to the student in a limited number of one-on-one sessions. The IST then teaches the strategies to the teacher and the parent. The IST also models these strategies within the classroom, in a guided-practice delivery, supporting successful whole-class implementation by the teacher. The expectation is that learners (both child and adult) will become strategic, not that the IST will be used as a long-term service provider who, in the traditional special education model, would serve a caseload of students, typically by pulling the students out of the classroom to an alternate location to provide instruction.

The Instructional Support process, on behalf of a student, flows as follows:

1. A teacher, team, parent, or student raises a concern about the student(s).

2. The IST and/or a member of the CIM team immediately meets with the teacher(s), gathering information to clarify the problem, and communicating the process.

3. The IST conducts a CBA to learn, in the context of the curriculum, what the student(s) knows and can do.

4. If the concern is regarding behavior, the team conducts a functional behavioral assessment.

5. The CIM team meets, using the data in the locally developed problem-solving process, to determine the cause of the problem and to select interventions.

6. The IST and/or CIM team member tries and evaluates instructional strategies in individual sessions with the student. This step begins within the instructional assessment.

7. The IST and/or CIM team member models effective strategies for the student (this step also begins within the instructional assessment and strategy session), and works with the student long enough for the student to become automatic at applying the strategy.

8. The IST or a team member assists the teacher(s) in class-wide applications of the strategies by modeling, co-planning, co-teaching, and follow-up assistance.

9. The IST or team member teaches strategies to the parent for implementation at home.

10. The IST and/or Team provide follow-up, support, and evaluation of the effectiveness of the intervention(s).

The 7 SHARE Initiative Training

Training is multifaceted and specifically designed to meet the needs of each group of participants. A team of staff developers, including local staff developers and consultants from the Pennsylvania Model, trains ISTs and teams.

1. During the first 4 years, elementary ISTs and CIM Teams learned CBA from Dr. Edward E. Gickling in a 2-day workshop followed by monthly guided-practice within classrooms. Having built local capacity, CBA training is now provided by local staff developers.

2. During the first 4 years, secondary ISTs were trained and given monthly in-school guided-practice by Pennsylvania Secondary Instructional Support Model trainers. Local staff developers now deliver that training.

3. Local staff developers train elementary and secondary CIM teams and ISTs in the locally developed, data-driven, Collaborative Problem-solving for Student Success process (see Figure 2 above), and provide on-going in-school guided-practice in its application.

4. Superintendents, administrators, and ISTs have regular opportunities to work with consultants and local leaders.

5. School administrators have been considered core members of their CIM team, and are strongly urged to participate as full team members in all training. In addition, they have been provided with multiple opportunities for professional development with local leaders and consultants, not only in set-aside training sessions, but also during the monthly visits by consultants to their schools.

6. School staff have multiple opportunities to learn about the model from local 7 SHARE leaders, their ISTs and CIM Teams.

7. School Psychologists have also been considered core members of the school CIM team and have participated in the training. Additionally, they have been given specific professional development toward changing their role in schools from primarily

testing to using CBA in assessment and delivering Instructional Support within the classroom.

8. Parents of students who receive Instructional Support are involved directly in the process by the IST and the CIM team, who make special efforts to bring parents into the process through participation in the CIM team meetings, conferences with the IST, and strategy teaching sessions. ISTs have 7 SHARE brochures available as information-sharing tools to use with parents and school staff.

CIM Training

Training for CIM teams includes practice in applying the skills in these components:

1. Effective teaming, practiced through instructional support case scenarios
2. Problem-solving process with root cause analysis
3. Instructional environment assessment (Ysseldyke & Christenson, 1998)
4. Curriculum-Based Assessment (Gickling, 2000)
5. Research-proven instructional strategies in reading
6. Developing resiliency plans (Henderson & Milstein, 1996) and behavior support plans (Hamilton, Topper, et al., 1994, Hamilton, Welowitz, et al., 1994)
7. Developing effective instructional support plans.

Like ISTs, the team training has both a direct 2-day component, and an on-going, in-school guided-practice. The team membership and the focus of intervention differ slightly between elementary schools and secondary schools as outlined in Table 7.

Table 7

Comparison of Elementary and Secondary School CIM Teams

School Level/Function	Team Membership	Focus
Elementary CIM Teams		

Function: to use student data to problem solve concerns about student achievement, develop instructional intervention plans, and assist teachers in implementing the plans.
 	
Team examines:
• CBA data on individual students, especially in reading, writing and math
• Systems questions raised by observed patterns in student achievement, teacher requests for assistance, and curricular, instructional, and assessment issues.
	• Building Administrator
	• School Psychologist
	• Instructional Support Teacher
	• Teachers from each grade level
	• Child's teacher
	• Other staff as needed (e.g., social worker, nurse)
		• Individual Student Assessment
		• English language arts
		• Math
		• Developing strategic learners
		• Modeling class-wide applications of strategies with teachers
		• Assessing and addressing systems issues:
		  • Curriculum exploration within and across content areas
		  • Analysis of student performance on state and local assessments
		  • Quality of primary instruction
		  • Fostering a culture of collaborative support

Secondary: Middle and High-School Grade Level or CIM Teams		
Function: to use student data to problem solve concerns about student achievement, develop instructional intervention plans, and assist teachers in implementing the plans.	• Building Administrator • School Psychologist • Instructional Support Teacher • General education teachers* • Child's teacher • Other staff as needed	• Student performance across all subject areas • Individual student assessment • Developing strategic learners • Modeling class-wide applications of strategies

Table 7 – *Continued.*

Team examines: • CBA data on individual students, especially in reading, writing and math, study & organizational skills as they apply across all content areas • Systems questions raised by observed patterns in student achievement, teacher requests for assistance, and curricular, instructional, and assessment issues.		• Facilitating collaboration and co-teaching among teachers • Curriculum exploration within and across content areas

*The ideal structure at the secondary level is grade-level teaming.

Implementation Integrity

In a study of the impact of program implementation integrity on student outcomes, Kovaleski et al. (1999) found that the degree of gains made by students served in the Instructional Support model in Pennsylvania were dependent upon the degree to which the model was implemented as designed. Using the variables of academic learning time, (a) on-task behavior, (b) task comprehension, and (c) task completion as the measures of the impact of instructional support on student achievement, researchers confirmed what writers before have contended about implementation integrity. Kovaleski et al. write, "Program efficacy is influenced by the extent to which its components are implemented" (Kovaleski et al., 1999, p. 172). Kovaleski and his co-investigators found that "students in schools that implemented the IST process at high

levels consistently performed better over time than students in schools where low levels of implementation or no implementation were evident" (Kovaleski et al., 1999, p. 180). They further found that "half-hearted attempts" were no more effective than what is practiced by schools that have no Instructional Support intervention. In addition, schools with high levels of implementation were found to have implemented components superceding the 'basics'. These schools had in place "aspects such as strong principal leadership, extensive up-front and ongoing data collection to inform decision making, and the involvement of a support teacher to establish and fine-tune strategies that were selected by the team" (Kovaleski et al., 1999, p. 182).

Following the example of the Pennsylvania model, the BOCES 7 SHARE leaders developed two tools to assess the degree of implementation of the elements of the 7 SHARE Initiative. The first is an 80-item assessment to be completed by schools first as a self-assessment, then by an external evaluation team. The tool covers staff development, organization and management, student assessment, design and implementation of classroom interventions, collaboration, and reflection and analysis elements (Appendix A). To date (November 2002) the instrument has been shared as informational only. Its formal implementation has not yet been launched. The second tool is a CIM Team process observation tool that is used to evaluate the degree to which the team is implementing the model's collaborative problem-solving process (see Appendix B). This tool is currently being used with every team, and is preceded and followed-up with training and guided-practice. Based on the Pennsylvania experience and that of SCT BOCES, schools that have high levels of implementation of the elements and processes will have higher success rates with students as measured by lower referral

rates and higher incidence of student goal attainment as reported from multiple sources. While implementation integrity is not the subject of this study, I have taken it into account by limiting the data to those schools that were in the second year of implementation with the same IST in 1999-2000 who was there in 1998-1999.

CHAPTER 4

METHODOLOGY

Program Evaluation Literature

The methodology I used for this study is program evaluation, specifically a combination of Fourth-generation evaluation (Guba & Lincoln, 1989), described as responsive and constructivist (Guba & Lincoln, 1989; Patton, 1997), and utilization-focused evaluation (Patton, 1997) employing an insider/outsider research team (Bartunek & Louis, 1996). Fourth-generation evaluation is a methodology used in dissertations (Brydges, 1997; Haskin, 1998; Huebner, 1995) as is utilization-focused evaluation (Flowers, 2000; Morgan, 1996; Spring, 1995). As the coordinator of the 7 SHARE Initiative, it has been my role from the beginning to conduct an ongoing program evaluation and to report to multiple stakeholders, at least annually, on the impact of the initiative. Using the principles of full participation of stakeholders, collaborative research teaming, continual responsive evaluation, and constructivist methodology, promoted by Guba and Lincoln, Patton, and Bartunek and Louis, I have, over 4 years, conducted the evaluation process collaboratively with the stakeholders, and with internal and external data analysts and researchers.

In *Fourth-generation Evaluation*, Guba and Lincoln (1989) trace the history of evaluation, identifying three generations of evaluation that led them to name their process

"Fourth-generation evaluation". The authors characterize each of the generations of educational evaluation as derived from particular influences on schooling.

The major influence in first generation evaluation was "the measurement of various attributes in schoolchildren" (p. 22). This first generation began as early as schooling began, and is characterized by the desire to discover what of that which teachers taught, was actually mastered by students. The first generation of evaluation included a number of historical landmarks in education, including the first published educational research (Rice, 1897, cited in Guba & Lincoln, 1989, p. 23), Alfred Binet's development of a test to measure intelligence quotient (known today as the Stanford-Binet IQ test), the development of educational research bureaus that eventually were organized into the American Educational Research Association, and the first group intelligence test, the Army Alpha, developed by the Army. The era also saw the development of social science: application of the scientific research approach to the study of human social phenomena. In particular, the field of psychology influenced the measurement emphasis in educational evaluation. Schooling during this era was also influenced by the application of scientific approaches to management in business and industry, a movement that focused on increasing productivity of workers through the application of findings from time and motion studies. When applied to education, this production efficiency model led to students being viewed as "raw material" to be "processed" (Guba & Lincoln, 1989, p. 25) according to standardized specifications. The 1920s and 1930s saw the proliferation of standardized tests, including some still used today, such as the Stanford Achievement Battery developed in 1922 (p. 26). First generation evaluation was characterized by testing and measuring of student

achievement, using standardized tools, and placing the evaluator in the detached scientific role.

In response to the deficits of first-generation evaluation that viewed students as the object of evaluation, and industry's standardization as appropriate for application to learning (Guba & Lincoln, 1989, p. 25), second-generation evaluation was characterized by "descriptions of patterns of strengths and weaknesses with respect to certain stated objectives" (p. 28). Educators during this era, beginning shortly after World War I, found the need to respond to new challenges faced by schools. Secondary schools saw increased attendance by students who previously would have stopped schooling after elementary school. These students came to secondary school looking for skills that would enable them to better their social and economic futures. Curricula needed to be made more responsive to more students than those on a college-preparatory track. The Eight Year Study (Smith & Tyler, 1942, as cited in Guba & Lincoln, 1989, p. 28), which began in 1933, examined the validity of the "unorthodox" and responsive curricula developed by 30 schools. The study followed one cohort of students through high school and college, and was designed to determine if, within the new curricula, students learned what teachers had intended them to learn, the course objectives. In the course of the study (the first program evaluation), information about the strengths and weaknesses of the curricula was used to make curricular improvements (formative evaluation). Gathering and reporting such data for use in curricular decision-making required that the researcher become "describer" (p. 28) in addition to technician. The significance of Smith and Tyler's 1942 study was twofold: it established program evaluation as a research methodology with Ralph W. Tyler later named the 'Father of Evaluation' (Joint

Committee, 1981, as cited in Guba & Lincoln, 1989, p. 28), and it resulted in the viewing of measurement data as "only one of several tools" to be used in educational evaluation (p. 28).

When Russia surpassed the United States in science by launching Sputnik, the need to further improve American education became an urgent priority. The essential element that second generation "Tylerian" evaluation lacked was the element of judgment (Stake, 1967, as cited in Guba & Lincoln, 1989, p. 29). Consumers of evaluation required more of evaluators than technical reporting and description. They required that evaluators make judgments about the findings. Third generation evaluation retained the functions of measurement and description, and added the judgment role. Guba & Lincoln report many models of evaluation that emerged during this era, including the Countenance Model (Stake, 1967, as cited in Guba & Lincoln, 1989, p. 30), the Discrepancy Evaluation Model (Provus, 1971, as cited in Guba & Lincoln, 1989, p. 30), CIPP (Stufflebeam et al., 1971, as cited in Guba & Lincoln, 1989, p. 30), the Goal Free Model (Scriven, 1973, as cited in Guba & Lincoln, 1989, p. 30), and the Connoisseurship Model (Eisner, 1979, as cited in Guba & Lincoln, 1989, p. 31).

The first three generations, while continuously improving the process, tools, and researcher roles in evaluation, still proved insufficient in a number of areas. Guba and Lincoln identify three flaws of prior generations: managerialism, failure to accommodate value-pluralism, and over commitment to the scientific paradigm. Managerialism refers to the practice of organizational leaders working directly with evaluators, leaving out the stakeholders or consumers. In schools this translates into administrators and boards of education working directly with evaluators to determine what questions are to be asked

and of whom. Stakeholders who are disempowered by being left out of this design are teachers and other staff, parents, students, and the community. Failure to involve all stakeholders negatively impacts the trustworthiness of the study by leaving unexplored many questions, and by assuming that all members in the process share the same values. Guba and Lincoln (1989) write, "The assertion that science is value-free can be seriously challenged," and "the value pluralism of our society is a crucial matter to be attended to in an evaluation" (p. 35). Overcommittment to the scientific paradigm leads to a number of undesirable consequences in evaluation: context-stripping, over dependence on quantitative measurement, "coerciveness of truth" (p. 37) or the reluctance to question the truth of results obtained through the scientific method, and limiting creative or alternative ways of thinking about the evaluand. Overall, each of the first three generations of evaluation fails to "hold the evaluator morally responsible for whatever emerges from the evaluation or for the uses to which the findings may be put" (p. 38). While Guba and Lincoln do not suppose that their Fourth-Generation Evaluation approach will be the final and correct approach, they purposefully address the flaws of the previous approaches by engaging the full range of stakeholders in a constructivist approach throughout the evaluation process. Theirs is an approach that empowers the stakeholders. The evaluation of the 7 SHARE Initiative has been purposeful in its design to include all stakeholders throughout the evaluation process.

Guba and Lincoln (1989) describe their approach as a responsive constructivist approach with seven defining characteristics (pp. 253-256). First, it is a sociopolitical (Guba & Lincoln, 1989; Patton, 1997) process that recognizes and honors the social, cultural, and political landscape in which all human endeavors are grounded. Second,

fourth-generation evaluation is a joint, collaborative process of inquiry between the evaluator and the participant stakeholders. Third, it is a teaching/learning process in which the role of the evaluator is to facilitate and participate in a scholarly and systematic inquiry and discovery process. Fourth, it is a continuous, recursive, and highly divergent process, in which there is no end, and no linear-sequential procedure. Fifth, fourth-generation evaluation is an emergent process in which the direction of the inquiry changes as new questions are generated based on continual analysis of and dialogue about the data. Sixth, it is a process within which the outcomes are unpredictable. Seventh, it is a process that creates reality, a methodology through which the "truths" are a "creation of the participants and stakeholders who construct them" (Guba & Lincoln, 1989, p. 256). Guba and Lincoln cite Robert Stake (1975) as the first to propose and describe responsive evaluation as an approach that uses an "interactive, negotiated process that involves stakeholders" (Guba & Lincoln, 1989, pp. 38-39) in the focus and design of the evaluation. "Responsive evaluation is an alternative, an old alternative, based on what people do naturally to evaluate things; they observe and react" (Stake, 1975, p. 14, as cited in Patton, 1997, p. 271). The approach is named responsive also because, in subsequent data collection, it responds to information gained previously. I continually work with the various stakeholder groups to analyze the data and make decisions about the refining of data collection and the addition of new research questions for the subsequent inquiry.

The approach is considered constructivist, as the process of evaluation is the social construction of knowledge through collaboration by individuals and groups employing a process of inquiry. Guba and Lincoln (1989) write,

> If knowledge exists essentially in the form of human constructions, then a paradigm that recognizes and accepts that premise from the start is to be preferred to one that does not. And if Fourth-generation evaluation stresses differences in constructions, and has as its central process a hermeneutic dialectic that requires constructors to confront one another's constructions and to deal with them, then the constructivist paradigm ought surely to be the paradigm of choice. (pp. 67-68)

According to Guba and Lincoln (1989) there are four specifications on which a constructivist approach depends (pp. 177-178). First, as with all forms of qualitative research, the study must take place in the normal, natural setting. This setting in the 7 SHARE Initiative is the classroom, the team meeting, and the IST Network meetings. Second, constructivist methodology requires adaptable instruments, those in 7 SHARE being the IST database, participant surveys, interviews and focus groups, student stories, and curriculum-based assessments (CBA). In the 7 SHARE process, if a question is asked for which there is no current data-gathering process, the 7 SHARE team decides what data is needed, and how to gather it. Third, since constructivist methodology uses "the human instrument" (Guba & Lincoln, 1989, p. 177), it requires qualitative methods. Quantitative data are not excluded, as the instruments used must be responsive to the questions. However, because qualitative methods are characterized by naturalistic inquiry within the field, descriptive conveyance of grounded meaning, flexible and emergent design, inductive analysis, and holistic, contextualized findings (Merriam, 1998, p. 9), they are the methods that must be used in fourth-generation evaluation. Finally, the constructivist approach requires that participants draw on their "tacit knowledge, without which the inquiry will quickly bog down" (Guba & Lincoln, 1989, p. 177).

In the 7 SHARE Initiative, the primary stakeholders who participated in the original design of the evaluation were representatives from each school district,

designated by their superintendent. Subsequent to the original design, superintendents, district administrators, BOCES leaders, Syracuse University researchers, the ISTs, teachers, students, and parents have been those involved in the collaborative, ongoing evaluation process. As these groups gather and analyze the data, they dialogue, generate new questions, gather and analyze more data, and develop constructs that form and inform the details of the model called 7 SHARE. Guba and Lincoln call this process of developing, questioning, and refining constructs "hermeneutic dialectic" (p. 41).

The methodology I use is also "utilization-focused" (Patton, 1997). Patton defines utilization-focused evaluation as,

> The systematic collection of information about the activities, characteristics, and outcomes of programs to make judgments about the program, improve program effectiveness, and/or inform decisions about future programming. Utilization-focused program evaluation (as opposed to program evaluation in general) is evaluation done for and with specific, intended primary users for specific, intended uses. (p. 23)

The purpose of the 7 SHARE evaluation is to use the data gathered to inform both the next steps in the initiative and to inform teachers' and school leaders' decisions in curriculum, instruction, and programming. A criticism of educational evaluation in the past has been that costly evaluations, often conducted by an evaluator using an expert model that included little participation by stakeholders, have not been useful, and therefore have not been utilized in practical application (Guba & Lincoln, 1989; Patton, 1997). From the beginning of the evaluation design of 7 SHARE, the intended users have been the participants and decision-makers. As discussed in chapter 3, the original task force articulated its purpose and its plan for evaluating and reporting the progress and results of the initiative. In addition, they identified the audience to whom results would be reported, and the frequency of reporting. Superintendents of the districts

identified individuals who would participate in the evaluation process, and have used the formative evaluation process to refine their purposes and goals and to make programming decisions.

The methodology I used employs an insider/outsider team approach (Bartunek & Louis, 1996). Insider/outsider methodology is defined by Bartunek and Louis (1996) as an approach in which "members of the settings under study [insiders] work together as co-researchers with outside [researchers]" (p. 3). Insiders are those whose "personal social world is under study" (p. 14). Their inquiry is from the inside. Outsiders are those who do not live within the setting under study, and are concerned with seeking knowledge about the social setting under study. Their inquiry is from the outside. Such an approach values the differences between the questions that members that live within the setting have and those that the outside evaluators have. In such a design, insiders and outsiders "work together, as co-researchers, examining the setting, producing sense made of the setting, and authoring public accounts of life in the setting" (p. 3). Insiders work with outsiders collaboratively in more than data-gathering: They actively participate as co-researchers from design through gathering, analyzing, and reporting the data. In such a design, team members "share authority for decisions about the content of the story told" (Bartunek & Louis, 1996, p. 21). The team is ultimately responsible for the study.

That team is diverse in their connections to the object of study. In our case the evaluation team consisted of myself as regional 7 SHARE Coordinator, a school district administrator responsible for regional special education data analysis, Syracuse University researchers, the BOCES Data Analysis Specialist, the BOCES Administrator of Staff and Organizational Development, the ISTs from each of the schools, and the

district leadership teams responsible for program implementation and data collection within their school districts. The role of the Syracuse University researchers in the 7 SHARE Initiative began in 1998, the first year of implementation, and continued for 3 years. As the external evaluators, they explored teacher perception and practice as a result of working with the IST in their schools. Their data was gathered through teacher surveys, focus groups of ISTs, teachers, and principals, as well as interviews with students and parents. They employed the Insider/Outsider approach, working collaboratively with the internal team. The data from their evaluation could not be used in this study, as it was not possible to disaggregate the data from just the 6 schools used in this study. However, their work with the insider team has had an impact on the rigor with which the participants document, evaluate, and report data, as well and on the breadth of their exploration of the setting. Bartunek and Louis (1996) write, "Insiders' sources of knowledge often may add considerably to outsiders' understandings and insiders' reflection and practice may benefit from their participation in research endeavors that have primarily a scholarly orientation" (p. 54). The quality of the implementation of Instructional Support in the participating schools has been enhanced by their relationship with Syracuse University researchers' scholarly orientation to evaluation.

Bartunek and Louis (1996) use the terms insider and outsider to refer to more than the various players' formal roles in the setting. They use the terms to "capture actors' perspectives on the setting" (p. 12). The authors reference three perspectives that the various players have relative to the setting: physical proximity, psychological involvement, and insider/outsider relationship among the individuals inquiring together.

While the lines between outsider and insider begin with clear definition, they become more complex relationally as co-researchers work together within the setting. Table 8 illustrates that each player in the 7 SHARE evaluation is both an insider and an outsider to a degree relative to physical proximity, psychological involvement, and relationship among individuals inquiring together. Often one is 'more outsider than insider' relative to other players in the system or to the approach they take to the data.

As 7 SHARE Coordinator, I am the primary author of the annual program evaluation reports. Having first conducted the evaluation collaboratively, team members analyze the data and dialogue as a team, then I write a draft report and present it to members of the team for feedback and input. I edit and write the final report and disseminate it as agreed on by the team.

Evaluation Process

Utilization-focused evaluation and fourth-generation evaluation have parallel processes as illustrated in Table 9. The Guba and Lincoln (1989) resource is more theoretical in nature, identifying the flow of the evaluation processes, embedded within which are the actions which make it empowering to the stakeholders: continuous, responsive and recursive in nature, constructivist, and inclusive of divergent stakeholder perspectives. Patton's process (1997) is a more pragmatic description of many of the same elements, listed in action steps to be followed by evaluators. As can be seen in Table 9, the components of collaboration, stakeholder empowerment, constructivism, and inclusiveness are part of Patton's process. His steps are more linear-sequential in appearance, with no direct reference to recycling. Despite these differences, the spirit of the processes is similar.

Table 8

Insider/Outsider Positions of Players Within the 7 SHARE Evaluation

Evaluation Players	Aspects of Players' Relationship to the Evaluation and Setting		
	Physical Proximity to the Setting	Psychological Involvement	I/O Relationship Among Individuals Inquiring Together
7 SHARE Coordinator	Outsider to teachers, teams Insider to ISTs	Insider	Insider
District Administrator	Outsider to classrooms Insider to the district's system	Outsider relative to data Insider relative to interest	Insider
Syracuse University Evaluators	Outsider	Outsider relative to data Insider relative to interest	Outsider-to-Insider Over time
BOCES Administrator	Outsider	Outsider relative to data Insider relative to interest	Insider relative to evaluation team Outsider relative to schools
BOCES Data Analyst	Outsider	Outsider relative to data Insider relative to interest	Insider relative to evaluation team Outsider relative to schools
ISTs	Insiders	Insiders	Insiders
District Leaders' Teams	Outsiders to classrooms Insider to the district's system	Insiders	Insiders

Table 9

Comparison of the Processes of Fourth-Generation and Utilization-Focused Evaluation

Flow of a Fourth-Generation Evaluation	Flow of a Utilization-Focused Evaluation
1. Contracting 2. Organizing 3. Identifying stakeholders 4. Developing within-group joint constructions 5. Enlarging joint stakeholder constructions through new information/increased sophistication 6. Sorting out resolved claims, concerns, and issues 7. Prioritizing unresolved items 8. Collecting information/adding sophistication 9. Preparing agenda for negotiation 10. Carrying out the negotiation 11. Reporting 12. Recycling	1. Identify intended users. 2. Negotiate the process to involve primary intended users in decision-making. 3. Decide on and commit to the primary purposes and intended uses of the evaluation. 4. Focus the evaluation by prioritizing questions and issues. 5. Reach consensus on methods, measurement and design decisions. 6. Gather the data. 7. Collaboratively interpret findings, make judgments based on the data, and generate recommendations 8. Report, evaluate the evaluation.

Note. From *Fourth Generation Evaluation,* by E. Guba & Y. Lincoln, 1989, pp. 186-187, and *Utilization-Focused Evaluation,* by M. Patton, 1997, pp. 376-380.

In mixing the methods, I have drawn from aspects of each method to create a process that fits the culture of the districts in which this study took place, and aspects that align with my collaborative, participatory approach to working with the customers in the districts. The districts in this study are highly collaborative in their relationships among each other and with the BOCES. Working within that culture I contract with the districts for an evaluation process that fits their intended uses, working collaboratively with inside and outside researchers to design a fluid and recursive process that will enable them to

use the findings to inform instructional and systems decisions. I rely on extensive field experience and multiple sources of both quantitative and qualitative data gathered by members of the evaluation team to develop a rich and descriptive picture of the instructional setting, and the student outcomes. Working with partners from within and outside of the setting, I analyze, interpret, then evaluate the data, and generate reports that include recommendations.

Role of the Researcher

In qualitative research, the researcher is the primary instrument for data collection and analysis, through direct participation in the field (Merriam, 1998, p. 6).

> The researcher is responsive to the context. . . . What is known about the situation can be expanded through sensitivity to nonverbal aspects. . . . The researcher can process data immediately, can clarify and summarize as the study evolves, and can explore anomalous responses. (Guba & Lincoln, 1981, as cited in Merriam, 1998, p. 6)

A responsive, constructivist, utilization-focused evaluation that uses an insider/outsider team approach requires flexible, creative, upfront design that places the evaluator in a role with participants as facilitator, co-designer, and co-investigator. Together we ask research questions, decide whom to involve, what data to gather, and how it is to be gathered. Together we gather the data, analyze the data, decide what it means, what we still want to know, and how we will gather more data. Such a researcher role requires that researcher and participants live within the setting being evaluated (Merriam, 1998, p. 8), and that we periodically step back to examine, evaluate, and develop questions and constructs, and then test them against the established research findings. Fourth-generation, utilization-focused, and insider/outsider team evaluation processes require the development of a working relationship with participants. Guba and Lincoln write that

the fourth-generation evaluator has new roles beyond those formerly practiced: technician, describer, and judge. In a responsive constructivist evaluation, the evaluator is collaborator, learner and teacher, reality shaper, and change agent (Guba & Lincoln, 1989, pp. 260-261).

Trustworthiness

Since no evaluation can be value-free, and in fact honors, openly confronts, examines, and communicates about participants' values, and since knowledge is constructed by social interactions between human beings in collaborative learning environments, this type of evaluation must be implemented in accordance with guiding principles that address standards of program evaluation. Such standards increase trustworthiness and have been promulgated by the Joint Committee on Standards for Educational Evaluation (1994). The standards address utility, feasibility, propriety, and accuracy. The utility standards require that evaluators define and become fully acquainted with the audiences, become informed about and respond to customers' needs, design a relevant study, and report in a clear and timely fashion (p. 5). The feasibility standards require evaluation designs that work within field settings and "must not consume more resources, materials, personnel, or time than necessary to address the evaluation questions" (p. 6). Propriety standards require specific scrupulous, ethical practices that respect the legal issues and privacy rights of those involved in the study. Accuracy standards require that the data gathered be accurate, specifically selected to answer the questions being asked, and that "judgments rendered must be linked logically to the data" (p. 6). The processes I use, promoted by Guba and Lincoln (1989), Patton

(1997), and Bartunek and Louis (1996), adhere to these guidelines, and their authors cite the program standards.

R. Burke Johnson, in his 1997 article entitled "Examining the Validity Structure of Qualitative Research" (1997), listed 13 strategies used by researchers to promote qualitative research validity. They are:

1. Researcher as detective
2. Extended fieldwork
3. Low inference descriptors
4. Triangulation
5. Data triangulation
6. Methods triangulation
7. Investigator triangulation
8. Theory triangulation
9. Participant feedback
10. Peer review
11. Negative case sampling
12. Reflexivity
13. Pattern matching.

Fourth-generation, utilization-focused, insider/outsider evaluation inherently incorporates many of these characteristics. The role of the researchers in 7 SHARE is to be detectives within the setting, observing, questioning, and interacting with co-researchers. Inherent to the collaborative, utilization-focused approach is extensive fieldwork. I made monthly visits to schools, visiting classrooms, observing team

meetings, observing ISTs as they conducted CBA and modeled effective strategies in classrooms, and interviewing teachers, principals, parents, and students. The evaluation team has been conscious of not overstating claims by the use of emotionally laden descriptors, opting rather to let the quantitative and qualitative data speak for its-self. As will be reported in chapters 5 and 6, the validity of the research in this study is supported by triangulation of the data from multiple sources, triangulation of the evaluation methods of Guba and Lincoln, Patton, and Bartunek and Louis, and by investigator triangulation within the collaborative evaluation process employed in 7 SHARE. Embedded in Fourth-generation, Insider/Outside, and Utilization-Focused evaluation are participant feedback loops. In 7 SHARE, constant feedback from ISTs, superintendents, district leadership teams, and the evaluation team have been purposefully built-in. As will be reported in chapters 5 and 6, the team conducts negative case sampling. Specifically the team looks for cases in which a student fits the description of a student most likely to benefit from Instructional Support, receives the interventions, but does not make progress. To further promote validity, we employ the practice of pattern matching across data sources. As will be reported in chapters 5 and 6, themes are first lifted from each data source, after which the data are analyzed across sources for evidence of themes and patterns that appear in multiple sources.

Limitations and Delimitations

A number of limitations of this study are those factors out of my control. One limitation is the 'cleanliness' of the data. Data used in this study are collected by many individuals, and are therefore subject to variations in consistency. ISTs in the 1999-2000 school year were still learning how to document curriculum-based assessments, therefore

the documentation of CBA data had the potential for variation in form and content. Some ISTs, such as the one who developed the bar-graph displays in chapter 5, used computer software to display student CBA data. Others used hand-written line-graphs representing baseline CBA data and progress during intervention. Still others kept narrative notes. The content of CBA data is more important than the form, and I monitored the quality of the content by working with ISTs during monthly network meetings and during visits to ISTs in their schools. To improve the quality of the form of display, I offered ISTs specific training in Microsoft Excel. Excel is a spreadsheet software program that allows ISTs to use student CBA data to develop graphic representations such as bar graphs (Microsoft, 2000).

The student intervention reports from the on-line database are entered by the ISTs who work directly with the individual students. The on-line report is included in Appendix C. I have attempted to control variations in reporting by regularly working with the ISTs to clearly define what is to be reported in each data variable. Such work occurs in monthly IST network sessions, via e-mail and phone calls, and in personal visits to each IST. In addition, I regularly monitor the database to look for and correct inconsistencies in reporting.

The districts' data on special education classifications and referrals are gathered from individual schools by the special education administrator in each district, as part of required reporting to the New York State Education Department. While the directions from the State are clear, there is room for error and variation in interpretation. The local administrator responsible for gathering and analyzing that data for the purposes of 7 SHARE has attempted to control the variation by further clarifying the formula for

analyzing the data. His formula for data reporting is included in Appendix D. He also works with district leaders in monthly meetings, by telephone and by e-mail to correct misinterpretations.

By design, the video interviews were conducted by the ISTs in each of the two schools, without my presence. The ISTs and I decided that holding the interviews in the IST's room, and having the IST ask the questions, with no other person present besides the cameraman, would create the most familiar and comfortable conditions for the students, and therefore would add to the reliability of the information. To ensure that the essential research questions were asked in each case, I provided interview questions to guide the ISTs. The questions appear in chapter 5.

One qualitative analysis tool I have used in this study to mitigate the inherent 'messiness' of data, beyond the controls practiced, is cross-case analysis of the various data sources. This is illustrated in chapter 6. In addition, the collaborative evaluation process, that includes stakeholders, provides a vehicle for identifying and correcting variations in interpretation.

A second limitation is variation in commitment by school district leaders to the process. Participating schools in the 7 SHARE Initiative are primarily small rural school districts, with the exception of one small city school. The districts received state financial aide for the first 3 years of start-up to support a portion of the costs of hiring long-term substitute teachers to replace ISTs who came out of classrooms, and to support a portion of the cost of training ISTs. But the state aide did not cover the entire cost to districts. Therefore, school superintendents' commitment to fund the initiative is essential to continued participation and implementation integrity. Commitment to the

concept and active communication of that commitment are different. School principals, those most directly responsible for school programs, have received their most detailed information about the initiative from those of us in the BOCES portion of the leadership team. Ownership on the part of principals has been hard to establish due to various factors. One factor is that during the initiative, four of the original seven districts changed superintendents, and three schools received new principals. These changes affect the implementation integrity of the model. Another factor is that principals have not been required to attend training on the model, which also compromises the implementation integrity, as principals have varying visions of the role of the Instructional Support Teacher.

A third limitation involves the challenges involved in creating a shared vision. Prior to the implementation of 7 SHARE, the largest school district had a mandated and highly bureaucratized system of prereferral intervention teams in every school. The preconceived notion that the purpose and function of these teams is to receive special education referrals has hindered the implementation of a new vision of the team as providing instructional support for struggling students and their teachers. Changing the paradigms of teachers regarding the purpose of teams relies very heavily on purposeful promotion of the concept by school administrators. Too often, administrators hold the old paradigm. These factors place the burden of implementation too heavily on the one person in the district with the most exposure to the vision: the IST.

The size of the sample was limited when one of the seven ISTs chose not to continue in the role during the 1999-2000 school year. That left only six ISTs, serving

eight schools, to use in this study. Regarding student and parent interviews, I was dependent upon volunteers, which limited the numbers of stories from which to draw.

A potential limitation is the variation from school-to-school in teachers' openness to participating in the process. Work with the IST is dependent upon teachers who volunteer. Teachers must be confident enough to admit that they need assistance in student achievement matters, willing to ask for assistance, open to suggestions, and to having a colleague in their classroom, and they must be willing to implement the interventions. Those who volunteer to participate in the process are often the teachers who participate regularly in self-improvement efforts, and are not usually those in greatest need of improving instructional practices. ISTs during the 1999-2000 school year, the second year of implementation, were just beginning to gain the trust of teachers and be invited into their classrooms to model strategies.

This study is delimited by my purposeful selection of the segments of data to be used in the study. I have chosen three primary sources and one supporting source of data. The three primary data sources are those for which I have direct responsibility: 143 IST Individual Student Intervention reports, one longitudinal case study report conducted by an IST, and three video-taped interviews – two with the students who were interviewed on video, and one with the parent of one of the students. The supporting source is the referral/classification data for the eight schools, data gathered by an administrator on the 7 SHARE leadership team. I have chosen to include only the eight elementary schools, served by six ISTs, those where the ISTs in their second year in 1999-2000. The purpose of including only elementary schools is that the Instructional Support model varies at the secondary level. I excluded the secondary data to ensure accurate analysis of the impact

of a controlled set of interventions on student outcomes. The purpose of using only second-year ISTs is to increase the likelihood that ISTs were functioning within the prescribed model.

Data Types and Collection Processes

In seeking answers to the question, "What is the impact of Instructional Support on individual students served by the 7 SHARE Initiative?" the data I use in the evaluation of 7 SHARE is both quantitative and qualitative. "Responsive evaluation does not rule out quantitative modes, as is mistakenly believed by many, but deals with whatever information is responsive to the unresolved claim, concern or issue" (Guba & Lincoln, 1989, p. 42). The quantitative data used in this study are the analysis of referral, classification, and classification efficiency data from the participating schools, and analysis of the on-line intervention reports of individual students served by ISTs. Qualitative research focuses on process, meaning, and understanding, and therefore can use many forms of data such as pictures, videotapes, participants' words, and documents. In this study, qualitative data sources are three video-taped interviews, two with students and one with the mother of one of the students, one longitudinal case study, and 143 individual student intervention reports from an on-line database.

Individual student intervention data from ISTs have been collected via an electronic database. The reports contain the nature of the original problem the student was having (as reported by the teacher), the interventions put in place, and the results for the student (as reported by the IST). The data-gathering tool is contained in Appendix C. I have analyzed, clarified, confirmed, and displayed these student data collaboratively with the ISTs and with the data analysis team. ISTs gather and document CBA data on

each student. They report and display the data in narrative, numerical, and visual formats. For the purposes of this study, I visited each of the second-year ISTs to examine their student CBA documentation. A longitudinal case study report, developed by one of the ISTs in this study, is included in chapter 5 as one of the three primary sources of data used in the current study. The case study report illustrates an example of CBA data gathered by ISTs and one way of reporting it. The report is illustrative of the type of data kept on individual students by each of the six ISTs in this study.

The longitudinal case study report is 1 of 13 that I received from ISTs in response to an inquiry into the long-term impact on students. I asked them to identify students they had worked with and followed for 2 school years or more, students identified as those most likely to be effectively served by Instructional Support. Students most likely to benefit are those who are failing one or more subjects, those who are struggling with reading or math, and those who do not have obvious disabilities. I asked the ISTs to report the pre-intervention CBA data on the student to describe the interventions, and to report on the outcomes. The case study report included in chapter 5 of this study is from one of the six ISTs whose data is part of this evaluation, and is one of the two students whose video interviews are included. The value of this case study report is to verify and add detail to the intervention reports, and to illustrate the types of CBA data used by all ISTs to generate the on-line intervention reports. The case report adds to the trustworthiness of the on-line data.

Often the best descriptions of the impact on students are those described by the students themselves. ISTs from three of the eight second-year schools interviewed four students and one parent on video. The interviews from two of those students and one

from a parent of one of those two students are included in chapter 5 of this study, as they are the only two elementary students interviewed, who were served by second-year ISTs. All ISTs used the same interview questions:

1. What was school like for you (your child) before we began working together?
2. What did we (your child and I) do together?
3. What is school like for you (your child) now?

We followed the protocols set by the Media Production Department at the SCT BOCES, first attaining written permission from the students' parents. I transcribed the full text of the video interviews, and edited the videotapes for educational and informational uses. I coded the video transcripts for an analysis of patterns of response regarding impact on students' school experiences and interventions identified as contributing to student success.

Demographic data from the participating school districts were collected and analyzed by an administrator from one of the school districts, a leader in the region in data-informed decision-making and in the development and implementation of the 7 SHARE Initiative. Although he was solely responsible for the collection and analysis of this portion of the data, we collaborated on the interpretation and presentation of the data. These demographic data were another source of data used in this study. I have re-analyzed the data and re-calculated the percentages, including only the eight schools in this study. The data gathering tools he used are included in Appendix D.

Data Analysis Process

As part of my role in the ongoing evaluation of 7 SHARE, I have already worked with the 7 SHARE team to analyze the complete sets of data from more sources than are

included in this study. To answer the question of student impact for this study, I have re-examined the data from each of the multiple sources individually, looking for data that answer the question. I have analyzed each source individually, coding the video transcripts and longitudinal case study (Eisner, 1998; Merriam, 1998; Miles & Huberman, 1994), "distilling" (Eisner, 1998, p. 189) or "reducing" (Miles & Huberman, 1994, p. 10) the large quantity of data from the on-line database, generating themes or categories within data sources, (Eisner, 1998; pp. 189-190; Merriam, 1992, pp. 179-187) and then developing the conceptual framework for the design of this study (Miles & Huberman, 1994). I have done a cross-case analysis of the data sources (Merriam, 1992; Miles & Huberman, 1994), looking for patterns, themes, confirming and disconfirming data, and triangulation (Johnson, 1997). I created data displays, included in chapters 5 and 6, to assist in analyzing, cross-analyzing, and communicating the data (Miles & Huberman, 1994; Patton, 1997).

To mitigate the possibility of researcher bias and to increase the validity of the program evaluation process, I have incorporated strategies identified by Johnson (1997) that promote validity. I have done extensive fieldwork, visiting ISTs in their schools on a monthly basis, observing, participating in, and dialoguing about their CBA and instructional support work with individual students and with teachers in classrooms. For the purposes of this study, I reviewed records kept by the ISTs of the students in this study, including CBA data, anecdotal records, and student work, keeping field notes to be used as a source of data. I have sought triangulation – across the various sources of data, as will be illustrated in chapters 5 and 6, and investigator triangulation in data analysis sessions with 7 SHARE team members, ISTs, and school administrators. I have sought

methods triangulation, cross-referencing the methodologies used by Syracuse University evaluators with those of the two primary methodology sources cited in this study, Guba and Lincoln (1989) and Patton (1997). Another validity strategy I purposefully used is participant feedback. The ISTs regularly review and discuss their data in monthly network meetings that I facilitate. The 7 SHARE Team meets regularly to continually evaluate the program data. Negative case sampling is part of the process of strengthening the validity of this study. In the analysis of individual student reports used in this study, I looked for disconfirming cases: students who fit the profile of a student most likely to benefit from Instructional Support, who received the interventions, but did not prosper. Their data is discussed in chapter 6. Pattern matching, another validity strategy, is illustrated in chapter 6, in a cross-data analysis display.

Following the practices of Fourth-generation, Utilization-Focused evaluation, as part of my ongoing coordination of the 7 SHARE evaluation process, I worked with members of the evaluation team to develop three of the four evaluation processes and tools used in this study: the on-line database, the video interview questions and procedures, and the longitudinal case study. I used a qualitative analysis tool, a Variable-to-Variable Matrix described by Miles and Huberman (1994, p. 221), to conduct a second analysis of the on-line database intervention reports. The fourth data process, that of gathering and analyzing referral, classification, and classification efficiency data, is managed by the district administrator responsible for conducting this process annually for the seven districts. The tools used for reporting these data are specified by the New York State Education Department as part of annual district special education data reporting. For the purposes of the 7 SHARE Initiative, only a portion of the total data mandated by

the state is used, and the district administrator has developed a specific formula for selecting the desired data. His formula is included in Appendix D. In this study, I used the data he gathered and his analysis process to re-analyze the data of the six schools included in this study. Within and across the data sources, I followed Miles and Huberman's analysis flow of data reduction, data display, and conclusion drawing and verification (Miles & Huberman, 1994).

CHAPTER 5

THE IMPACT: ANALYSIS OF THE DATA

Individual Student Intervention Reports Analysis Process

Introduction

I examined the individual reports of each of the 144 students served by the six ISTs in the eight schools studied and examined the summary reports of each of the ISTs to determine the following information, (a) Nature of the problem, (b) Nature of the interventions, and (c) Results of the interventions. I then examined the data using two procedures.

First I calculated the percentages of students according to each reporting area. In Nature of the Problem, I calculated the percentage of students whose problem fell within each of the categories: academic, behavior, social, emotional, and attendance. I did the same in the categories of interventions, and the categories of results of the interventions. Having examined the summary reports of the six ISTs, and determined that, in general, their profiles were similar, with academic problems being the majority of cases, instructional strategies being the majority of interventions, and academic improvement representing the most frequent result, I developed an aggregate display of the reports of the six ISTs. These simple percentages reveal a great deal of information about the struggles of the students for whom teachers made requests for assistance, about the nature and variety of interventions implemented by the six ISTs, and about the impact of the

interventions on student achievement, skills, and behavior. The summary of the aggregate of 143 reports submitted by six ISTs appears in Table 10.

Analysis

An analysis of these data reveals, first and foremost, that the majority of students experienced improvement as a result of the interventions. Seventy-six percent of the 143 students improved in the area of academics. The significance of this statistic alone lies in the definition of the child for whom Instructional Support is recommended. These are the students who are failing, or are at risk of failing, whose teachers have not been successful in their attempts to intervene, and who, if allowed to continue to fail, would most likely be inappropriate referrals to special education. While it is not possible via the on-line data reports to determine that each of the students who were failing would have been referred to special education, it is possible that within these eight schools alone, 108 potential inappropriate referrals to special education have been averted. Instead, these students have experienced improvement in the areas of reading, writing, study skills, organization, math skills, and/or grades. These reports indicate that the result of the 7 SHARE Initiative on 76% of the students served is academic improvement.

It is logical, then, to consider the 20 students referred to special education more appropriate referrals than many referrals were prior to implementing instructional support, because these students had instructional and/or behavioral interventions as reported by the ISTs, and failed to make adequate progress. According to Hargis (1987), failure to make adequate progress, when given instructional level instruction, is one indicator that the student may qualify for special education services.

Table 10

Analysis of Student Intervention Reports: Percentage of Students Whose Reports Reflected Each Variable

Nature of The Problem	*n*	Nature of the Intervention	*n*	Results of the Intervention	*n*
Academic	136 (95)	Instructional Strategies	132 (92)	Academic Improvement	108 (76)
		In-Class Modeling	65 (45)		
		Classroom Support	103 (72)		
		Observation/ Consultation	38 (27)		
		Home Support	49 (34)		
		Community Involvement	1		
Reading/ Writing	107 (75)			Reading/ Writing	77 (54)
Study Skills. Organization	44 (31)			Study Skills/ Organization	22 (15)
Math	40 (28)			Math	25 (17)
Grades	20 (14)			Grades	10 (7)
Other	7 (5)			Other	14 (10)
Behavior	17 (12)	Behavior Plan	12 (8)	Behavior Improvement	45 (37)
Social	10 (7)	Social Skills Teaching	7 (5)	Social Skills Improvement	12 (8)

Table 10 – *Continued.*

Emotional	8 (6)	Emotional Counseling	9 (6)	Emotional Improvement	8 (6)
Attendance	1			Attendance Improvement	2 (1)
				Referral to CSE 20	(14)
				Referral to 504 4	(3)
				Retained in Grade	16 (11)
				Other	27 (19)

Note. $N = 143$. Percentages reported are the percent of the total 143 reports that indicated each variable. Multiple intervention combinations were possible in any given individual student report.

Those students referred for Section 504 accommodation plans are a bit more questionable. Section 504 of the Rehabilitation Act of 1973 is a federal civil rights statute that prohibits discrimination based on disability (Section 504 of the Rehabilitation Act, 1973). The Section 504 qualifications are less clearly definable than IDEA qualifications for special education services. The law defines students as "considered to have" or "having a history of" a disability. This statute is used most often to obtain physical, instructional, or test accommodations for a student, while not providing direct special education services.

Therefore, the four students in this study who were referred to 504 are still participating fully in the general education setting, but receiving more individualized accommodations. The 16 students retained are students who, except 1, are kindergarten

and first- and second-graders, students whom teachers did not consider ready to move to the next grade level. Typically teachers recommend retention when they consider the student lacking in the prior knowledge, experience, and/or developmental readiness to be able to perform at grade level. It should be noted here, that, as discussed in the literature review on CBA, our schools are not structured to be able to accommodate the degree of achievement variation that naturally occurs. Teachers, school leaders, and the community still believe in grade-level standards for performance, and generally have a tolerance for variation of only plus or minus 6 months from the grade-level standard (Spache, 1976, as cited in Hargis, 1987, p. 4). If schools were structured according to the principles of individual mastery rather than grade-level expectations, the needs of more students might be met without the stigmatizing consequence of being labeled as disabled or being retained.

The analysis of student intervention reports also indicates improvement in behavior. In fact, more students were reported as having improved in behavior than were originally identified with behavior as the primary problem. While only 12% (17) of the students were reported with behavior as the primary problem, 37% (45) of the reports indicated improvement in behavior. This difference has two possible explanations, both of which I can say are true to a degree because of information provided through my extensive conversations with ISTs and my presence in the field. First, ISTs were asked to report the primary problem for which a child needed intervention. While ISTs could choose two categories in the Nature of the Problem section, they were encouraged to select the priority, and certainly no more than two problem categories. When reporting Nature of the Interventions and Results of the Interventions, they were allowed to report

all interventions and all results. Therefore, a student may have had behavior as an unreported secondary problem area, and behavior improvement as a reported result. A second explanation is that in the 7 SHARE Initiative, all behaviors are assumed to have an academic frustration connection. This means that whenever a student is struggling behaviorally, the IST's first action is to conduct a CBA to determine if the child is experiencing academic frustrational-level instruction, defined as less than 93% known vocabulary in a reading passage, and less than 85% known in practice situations (Betts, 1946; Gickling, 2000; Gickling & Armstrong, 1978). Interventions for behavioral issues are always two-fold: creating instructional match and implementing a behavior support plan. That more students were reported as having improved behaviorally than were identified as behaviorally struggling, may indicate that there is a percentage of students whose primary issue was academic, and were demonstrating inappropriate behaviors in addition. When their academic struggles were addressed, their behaviors improved.

Looking at the Nature of the Problems for which students were recommended for support, it is programmatically encouraging that 95% of the requests for assistance were for academic struggles. When 7 SHARE was designed, the purpose was specifically to address the systems issues that were allowing high percentages of students to fail and ultimately to become inappropriate referrals. The planners worked hard to communicate that IST was not a place to refer students just with behavioral problems, although ISTs are available to serve any struggling student. We did not want ISTs to become disciplinary deans of students. That teachers made requests for academic assistance in such a high percentage suggests their need for instructional support, both for themselves

and their students, and their need for a better understanding of the concept of Instructional Support.

The Nature of the Interventions portion of the reports illustrates the richness of variety in the types of interventions ISTs brought to bear in their work with students. Again, it is encouraging to the planners of 7 SHARE to see that 92% of the interventions were instructional strategies taught to the student. This statistic reflects the direct targeting of interventions to the nature of the problem, and is programmatically encouraging in light of the importance that instructional support places on empowering students as independent learners. Add to this picture the 45% of reports that indicated In-Class Modeling of these same strategies for teachers, the 72% of reports that indicated other types of Classroom Support, and the 34% of reports that indicated Home Involvement with the IST and the interventions, and we begin to see a "wrap-around" approach to solving instructional struggles. Two longitudinal case-study students, whose data will be reported later, are examples of what can happen when students, ISTs, teachers, and parents join forces to turn around a student's struggle. One student was prevented from failing and ultimately from being inappropriately classified. The second was declassified.

The data in the Nature of the Intervention section indicate the degree to which various interventions were selected, based on the results of the CBA. As indicated by the reports, teaching instructional strategies to the student was the most frequently prescribed intervention (92%). The next most heavily relied-upon intervention was classroom support for instruction (72%), followed by in-class modeling of effective strategies (45%), and home involvement with parents in implementing the strategies (34%). It is

important to note that the training of ISTs and the vision of 7 SHARE is to provide job-embedded staff development of the strategies found to be successful in every classroom.

The reality for ISTs, especially in the second year of implementation used for this study (1999-2000), is that in-classroom modeling in all of the schools is dependent upon the volunteerism of the classroom teacher. Teaching has traditionally been a profession of isolationism, in which teachers are given their classroom, their class roster of students, and their materials, and then set out on their own to find their own way. Teaching has not been a collaborative, team culture, but a solitary and competitive one. As a result, ISTs, in order to be most effective, must first develop trust and comfort level among their colleagues in order to be welcomed into the classroom. That ISTs indicated modeling in the classroom in 45% of the reports is impressive in the second year of implementation. In the years after 1999-2000, the percentage of in-classroom modeling has increased, but the percentages in that second year were high, considering the barriers to collaboration that had to be overcome.

Analysis of percentages in the Intervention Reports left me with questions about which particular intervention variables appeared most often in the reports of those students who improved as a result of the interventions. I questioned if any connections could be drawn between particular intervention variables and the outcomes for students. To explore those questions I selected a second process.

I developed a cross-case display called a Variable-by-Variable Matrix (Miles & Huberman, 1994, pp. 219-222). The purpose of such a construct is to discover how variables might be connected. The Variable-by-Variable Matrix is a qualitative data analysis tool that displays connections while maintaining the richness of the individual

cases (Miles & Huberman, 1994, pp. 219-222). It is necessary first to analyze the individual cases to decide which are the major variables that are in play across cases. As reported earlier, I examined each of the 143 cases individually, and drew from them the variables that appeared to occur most often, were program design priorities, and/or about which I had a question. I drew out two types of variables: intervention variables and outcomes variables. I listed the intervention variables in no prioritized order in the left column. Then I ordered the outcomes variables across the top row from least to most desirable: "no improvement and referred for special education" to "improved." I completed a matrix for each of the six schools, and combined them for an aggregate picture. Table 11 presents the aggregate matrix for the six schools, displaying the numbers of students who received the intervention listed in the left-hand column and had the outcome listed across the top. Of the total 144 reports submitted by these six ISTs, 143 are represented in the matrix. One report was excluded, as the student was referred in June, and there were no data in the report other than the plan to evaluate the student in the fall.

The data in Table 11 represent a total of 143 student reports. Each original student report in this study includes both interventions and results of those interventions. Each cell in the table is read independently as a combination of an *intervention variable and an outcome variable*. The numbers and percentages represent the number of reports that indicated each combination of variables. For example, in the first row, of those students who were referred in grades K-3, 45, or 31.5% of the total 143 students, were reported as improved. Therefore, Referral in Grades K-3 was connected to

Table 11

Variable-by-Variable Matrix: The Connections Between Intervention Variables and Outcomes for Students

	Student Outcome Variables						
	# of Students						
Intervention Variables	Not Improved, Referred to CSE or 504	Not Improved, Retained	Not Improved	Improved, Referred to CSE or 504	Improved, Retained	Improved	Other: Moved, Refused Service, No Effort
Referred in Grades K-3	8* (5.6%)	2 (1.4%)	5 (3.5%)	8** (5.6%)	10 (7%)	45 (31.5%)	0
1st Semester Referral	8* (5.6%)	1 (.7%)	4 (2.8%)	10** (7%)	6 (4.2%)	44 (30.8%)	1 (.01%)
Strategies Taught to Student	7* (4.9%)	3 (2.1%)	13 (.09%)	15** (10.5%)	10 (7%)	84 (58.7%)	2 (1.4%)
Teacher Given In-Classroom Modeling of Strategies/Support	7* (4.9%)	3 (2.1%)	6 (4.2%)	11** (7.7%)	9 (6.3%)	69 (48.3%)	1 (.7%)

Table 11 – *Continued.*

10 or More Sessions of Direct Instruction With Student by IST	5* (3.5%)	1 (.7%)	8 (5.6%)	13** (9.1%)	10 (7%)	72 (50.3%)	0
Home Involvement	1* (.7%)	0	0	8** (5.6%)	4 (2.8%)	34 (23.8%)	1 (.7%)

Note. $N = 143$.

* One student did not improve and was referred and retained.

** One student improved and was referred an retained.

improvement in 31.5% of the students in this study. Students appear more than once, as their reports indicated multiple interventions such as "Referred in Grades K-3" and "Strategies Taught to the Student."

The Variable-by-Variable Matrix allows analysts to glean information about a range of outcomes experienced by the students served, and the interventions most associated with improvement in students. First, this display confirms the analysis of student intervention reports data displayed in Table 10 in that the outcome for the majority of students was improved achievement. Not only did the majority of student reports appear in the improved half of the matrix (including "Improved and Retained" and "Improved and Referred to CSE or 504"), but also the majority of all reports appeared in the "Improved" column. The students in the "Improved" column were able to stay in the general education classroom and curriculum, and experience success without the costly and stigmatizing effects of the additional support required by service in special education.

A closer analysis of the relationship of intervention variables to outcomes reveals that the most often reported intervention in student improvement is the teaching of strategies to the student. Fifty-nine percent of the students whose reports showed improvement with no retention or referral, received the teaching of strategies. These data suggest that empowering students with the tools necessary to become independent, strategic learners is the most effective instructional intervention in their achievement. These data are made more significant by calculating the total number of students reported as improved, including those who improved and were retained, those who improved and were referred, and those who improved and were referred and retained. A calculation of

this set of students, all of those whose reports indicated improvement, even if retained or referred, reveals that the teaching of strategies is still the most often reported intervention, with 76% of all reports in these categories combined indicating the teaching of strategies. This finding is important because it suggests that students improve academically when they learn effective reading, writing, listening, thinking, and organizational strategies that they can apply independently to learning across content areas, even in the absence of the teacher. These data suggest that empowering students to become independent, strategic learners through the direct instruction of learning strategies should be a priority over didactic delivery of content. It is important to note that the students in this study received instruction in these strategies first in a limited number of pull-out sessions with the IST, beginning as trial-teaching of strategies during the CBA. These same strategies were then taught to the teacher for implementation with the entire class of students. The pull-out factor will be discussed further.

The second most often reported intervention among those students who improved was 10 or more instructional sessions with the IST. This is linked to the most often reported intervention, in that it is the amount of sessions in which the student directly interacts with the IST, for the purpose of learning strategies, that appear to contribute to student success. I selected the criteria of 10 or more sessions based on my observation of the most often cited number of sessions. This criterion was confirmed by calculating the mode of the number of sessions with the IST reported in student intervention reports. Analysis of the 143 individual student reports regarding the number of contacts (instructional sessions) students had with the IST is reported in Table 12.

The data regarding number of sessions suggest that when students are struggling, direct instruction that is designed and based on the information gained from a CBA, with sufficient repetition for students to achieve independent mastery, is a direct contributor to improvement - in this analysis, the second most important contributing factor. In the 7 SHARE model, ISTs are instructed to conduct the initial CBA in a one-on-one setting with the student, and to try strategies during that assessment that target the student's identified skill needs.

Table 12

Number of Sessions With the IST, as Reported in Individual Student Intervention Reports

Quantity of Sessions Variables	**Number of Sessions**
Range of sessions reported	120 (1-121 sessions)
Mean (mathematical average)	21
Median (number of sessions in the middle of the distribution: representative average)	17
Mode (Number of sessions most often reported)	10

ISTs are also instructed that it is usually necessary to continue with several more one-on-one sessions with the student to give enough repetitions for the skills to become automatic, and to teach to multiple need areas. The general timeline given to ISTs is no more than three to six weeks of direct, one-on-one instruction with the student, accompanied by in-classroom modeling of the strategies being used, for the teacher to

implement with the whole classroom of students. The purpose of this guideline is to avoid replicating the model of long-term one-on-one remedial services already provided in schools through traditional remedial and special education programs. Essential to the Instructional Support concept is the condition in which the classroom teacher retains ownership of students' achievement rather than transferring responsibility to a 'specialist'.

The third variable most connected to student improvement according to the variable-to-variable matrix is in-classroom modeling of strategies and in-classroom support for teachers by the IST. The significance of this statistic is that it supports our belief within Instructional Support that the most successful interventions are those implemented consistently as part of effective instruction for all students in the classroom. Our experience in special education over the years is that strategies once considered adaptations for students with disabilities, are now considered 'best practices' for all students. Examples of such strategies include the use of differentiated instruction and assignments, graphic organizers, mnemonic devices, and addressing auditory, visual, and kinesthetic input, processing, and output modes. That in-classroom modeling of the practices found effective in individual student sessions is the third most connected variable suggests the need to go beyond the initial pull-out, one-to-one instruction, to the networking of effective practices among all teachers. This variable illustrates the effectiveness of a defining practice that separates Instructional Support from long-term services to students such as remedial programs and special education. In those programs, the focus for intervention is often on fixing the student's deficiencies, and too often the service is prescribed without the expectation that the student will become an independent

learner who progresses out of the need for the program. In remedial services, often there is little collaboration between the student's classroom teacher and the service-provider for the purpose of transferring to the classroom the use of the strategies found effective. Therefore, remedial and special education programs tend to be self-perpetuating because they do not include the component that will sustain the students' achievement gains in the classroom setting, and help to prevent failure of other students. That component, the class-wide application of effective instructional practices and strategies by the classroom teacher, is demonstrated in this study as being directly linked to academic improvement in over 50% of the students served by Instructional Support.

The three variables with the highest connection to student improvement, when examined together suggest that following the prescribed model in implementing 7 SHARE contributes to the academic improvement of the majority of students served by the model. As discussed in the literature reviews on Instructional Support, CBA, and research-proven instructional strategies, the prescribed process proceeds from conducting a CBA to discover the root cause of the student's struggle, to the trial-teaching of strategies, to the teaching of strategies to the student, to the transfer of those strategies to the classroom. The current study supports the research of Kovaleski et al. (1999) that links program fidelity to positive student outcomes.

It is interesting to note that while assistance by the IST early in a child's school experience (Grades K-3) and early in the school year was associated with 31% of the total reports indicating improvement with no referral or retention, it appears that intervention at any time during elementary school can be effective. Among the 143 students in this study, there were a comparable number of students who received support

from the IST in grades 4 through 6 who also showed improvement. The more important variables appear to be teaching strategies to students, 10 or more sessions of direct instruction with the IST, and modeling and support in classrooms for teachers.

Home involvement with the IST appeared in 34% (48) of student reports. Of the total 143 reports, 21 of the 48 reports of home support came from one of the six ISTs, who stated during my interview with her that she places a high priority on home involvement. Of the 30% of reports that showed both improvement and home involvement, 24% (34) indicated improvement with no referral to CSE or 504, and no retention. This places home involvement as the least connected variable to reports that demonstrated improvement. This observation parallels the findings in a 2-year study of "percentage of students who achieve success with varying levels of home and classroom support," a study reported by Catherine Snow in her book, *Unfulfilled Expectations* (1991, as cited in Cunningham & Allington, 1999, p. 2). The naturalistic study of schools that serve low-income students examined the variables of low, mixed, and high classroom support for learning with high and low home support for learning. They found that high-quality classroom instruction is the most powerful contributor to student success, with or without high home support.

There are a number of students who, although they were retained, referred to CSE or 504, or both, still exhibited improvement as reported by the IST. This is important information for students, parents, and teachers to take into account. All of these students exhibited an ability to learn, an essential element in determining a student's eligibility for special education services. A second essential element in determining eligibility for special education is the rate of acquisition (Hargis, 1987). A question that cannot be

answered by the data available in this study is the rate of acquisition for those students who either improved or did not improve and were still referred for special education services. If given more time with instruction at their instructional level, or given instructional intervention earlier in their school experiences, what percentage of these students would have been able to close the achievement gap between themselves and their peers? One wonders if any of these are students who have been failed by a bell-curve system that expects a plus or minus six months variation of grade level (Hargis, 1987).

Longitudinal Case Study Report

Introduction

One student's case stands out as an exemplar of the purposes, processes, and potential outcomes of the 7 SHARE Initiative. For purposes of anonymity, I have changed the student's name. The IST who worked with John is one of the six who began in 1998, and was in her second year in 1999-2000. She continues as an IST in the 2001-2002 school year. The IST submitted the following 3-year report of her work with John and the impact of intervention on his achievement.

Data

The IST who worked with John provided the following report regarding the first year during which she worked with him, the 1999-2000 school year.

"I began working with John in 1999 when he was a 3rd grade student. His teacher reported that he had difficulty in reading fluency and comprehension. After working individually with John, I went into his classroom to share strategies with his teacher and

other students. John even helped me model some of the strategies that we used. His self-confidence increased as we worked together. Figure 3 presents his reading curriculum-based assessment."

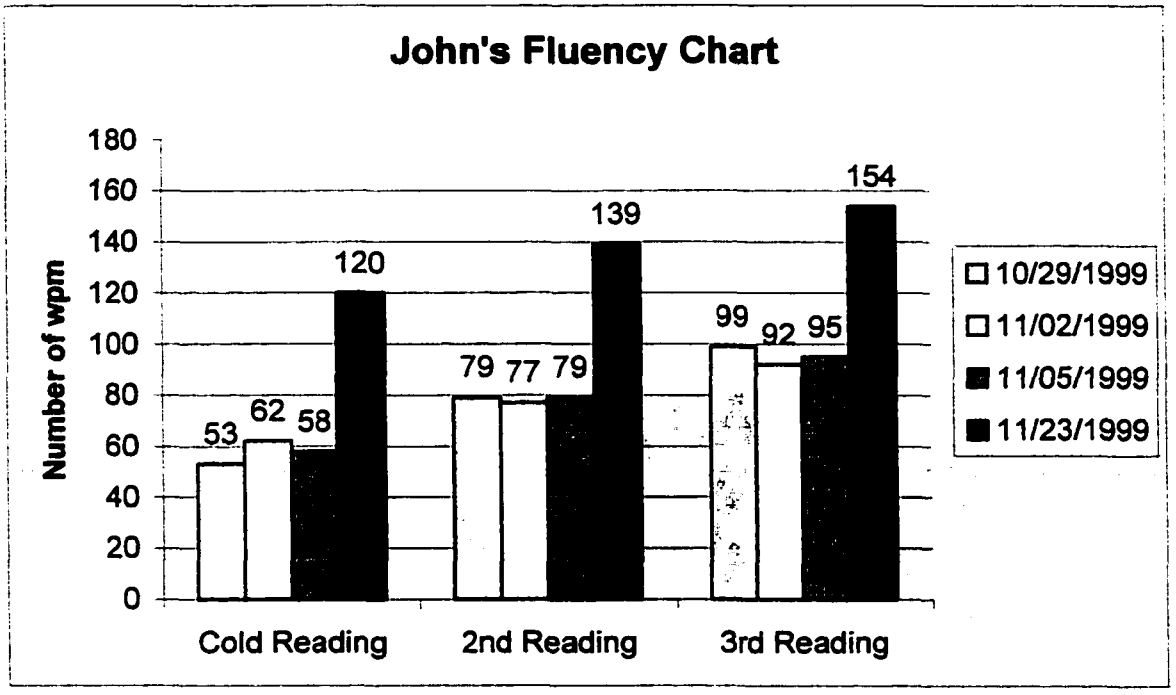

Figure 3. John's curriculum-based assessment reading fluency chart.

"This chart illustrates the number of words John read correctly in one minute (wpm). The 'cold reading' column is the first reading, with no additional instruction or strategies given. After he read it once, I went over vocabulary, reviewed [the fluency strategy called] chunking and gave hints for more successful reading. John improved each time. He may need to do some repeated readings to become more fluent and increase his comprehension. As noted, John seemed to improve on his cold readings too. That was probably because he naturally became better at chunking."

This same IST reported on John's performance at the end of the 1999-2000 school year: "His grades steadily increased as he gained confidence in his abilities. John's teacher and his mom told me how happy they were with the progress he had made. John was happy too!"

The IST followed John's progress during the 2000-2001 school year, during which she did not work directly with John, but worked in his 4th grade classroom to model class-wide applications of ELA strategies for his teacher. During this school year John and his classmates took the New York State ELA Assessment. His IST reported, "I worked mainly in the classroom with all of the students in John's 4th grade classroom, modeling ELA and Math strategies to help students to become more successful. We built upon listening/ note-taking and paragraphing strategies from 3rd grade. I also co-taught lessons with teachers on word mapping, quad reading, story writing and multiple step problem-solving. John continued to make gains. His teacher reported that he volunteered in class and worked with more confidence as he completed assignments. His mom told me that he was more motivated to complete homework and eager to read independently. John's performance on the New York State Grade 4 English Language Arts Assessment was a Level 2 (almost 3) out of 4. John's performance on the New York State Grade 4 Math Assessment was a Level 3 out of 4."

John's family moved to another area of the city before the start of the following school year. There was an IST in his new school, and his former IST communicated with her to make sure she would check on John to ease his transition to the new school. His former IST followed his progress during the 2001-2002 school year and submitted this report.

"Now in 5th grade, John has moved to another school in our district. I shared what John and I had done with the IST at his new school. His grades are good, and he is working at grade level. I have also communicated with the Middle School IST already so she is prepared for John when he gets there next year. He will continue to be successful!"

The IST shared the following report on John at the end of 5th grade with the ISTs from all of the participating schools.

"At the end of 5th grade, John was awarded more student recognitions than any other single student in recent years. He was awarded the Presidential Academic Fitness Award, High Achievement awards in Language Arts, Math, Science, and Social Studies, and overall Top Academic and Citizenship Award for fifth grade. In addition, he was recommended for honors-level courses in Middle School."

Analysis

John's story adds support to the process and results reported in the majority of intervention reports previously discussed. His struggle was with reading fluency and comprehension. The CBA fluency chart illustrates specifically his reading fluency rate in words-per-minute (wpm) in classroom materials. The chart illustrates John's fluency in initial, cold (unpracticed) reading, and two subsequent readings recorded after the IST taught vocabulary and the fluency strategy called 'chunking'. This same procedure was followed in four sessions. As revealed in the chart, John's fluency improved from 53 wpm on October 29, 1999, to 154 wpm on November 23, 1999. Given instruction in pre-reading vocabulary strategies, fluency strategies, and re-reading, the student's fluency nearly tripled in four sessions. John's individual student intervention report also indicates that the IST taught him a number of comprehension strategies such as

summarizing, questioning, impress reading, and written and oral retelling. John's case report confirms the variable matrix in the interventions associated with his improvement: strategies taught, direct instruction by the IST, followed by modeling of strategies in the classroom. Missing from his report was the fact that the student's mother was a great support to the work of the IST. As reported by the IST, she helped by implementing the vocabulary and chunking strategies at home.

John's case report goes beyond the on-line reports by describing interventions in more detail and reporting additional outcomes not captured by the on-line data. The IST conveyed John's increased confidence, increased participation in class, and his increased motivation as a result of his increasing success. John's story is triangulated by yet another source of data: a video-taped interview with John and his mom. The depth of the story is seen more fully when seeing John's and his mom's facial expressions and hearing the emotions in their voices as they told their stories.

Video-Taped Interviews: Paul, John, and John's Mom

Introduction

In the second semester of the 1999-2000 school year, I asked ISTs to recommend students to participate in video-taped interviews regarding their experiences in Instructional Support. The criteria for selection were the same as that for longitudinal case study reports, with the additional criteria that the student's parents/guardians give written permission and that the student was willing. Of the six second-year ISTs, three recommended students fit the criteria. One of the three was a middle-school IST, therefore the interviews of her students were used for other purposes, but not for this study. The remaining two second-year ISTs each had one student.

To analyze the texts, I first color-coded the text according to two questions:

1. What is the impact of Instructional Support on individual students served by the 7 SHARE Initiative?

2. What interventions are associated with improvement in the areas identified as problems for the student?

Data

I coded the transcripts according to the responses to these two questions. The three questions asked to the two students and one parent interviewed corresponded to the Nature of the Problem, Nature of the Interventions, and Results of the Interventions. I categorized the responses by question and assigned codes as indicated by the content of the response.

Analysis

Analysis of the three video transcripts revealed insights that corroborate the two analyses of student reports data, and add more detail. The ISTs began intervention by gathering data on student performance from conducting a CBA. What is noteworthy about both student interviews is the students' ability to articulate not only how they were doing in school prior to intervention by the IST, but to do so in measurable terms, and to convey how they felt about their performance. John stated, "I really didn't think I was that smart. I wasn't that good at reading or math." Later, when reporting his progress, he reported that when he started with the IST he could read only 25 words per minute. When asked how school was before he started working with the IST, Paul stated, "It was hard. I'd always need help with my homework. I'd always need an aide with me to help

me with my work and stuff." When asked how he got along with other students, he said, "I didn't get along with them that much. I'd always like hit 'em and stuff, if they wouldn't leave me alone." Paul's intervention report included the information that prior to arriving at this school, in second grade, he had been a student classified as emotionally disturbed and had a one-on-one aide assigned to him for his behavior.

John's mom reported that school was a source of great frustration that negatively impacted home life. She said, "At home, we would read night after night, we would do homework that would take hours: frustrating, tears, screaming, yelling, because I was frustrated and at a wits end would get frustrated with him." She spoke about John's feelings about himself: "Why did he have to be the stupid one? That's what he used to say. It used to break my heart . . . break my heart."

Both students were able to speak about specific interventions during their work with the IST that helped them learn better. John described the process of the fluency strategy called chunking: "You put words like into a group." His IST reminded him that he had gone into his classroom and taught the strategy to the students. The actual video of John shows him smiling and his eyes lighting up when the IST reminded him that he had a hard time demonstrating word-by-word reading because he had learned how to read so much more fluently. Paul talked about learning the vocabulary strategies called pocket words and word search, and how he used them in reading, social studies, and math. He also referenced talking about his behavior with the IST. John's mother gave all the credit for her son's improvement to the fact that the IST had taught him strategies. When the IST said that she would "keep tabs on him to make sure he has continued success," his mom said, "He will, because you've given him the tools to continue."

Regarding the Results of the Interventions, again the students were both able to give measurable descriptions of the impact of Instructional Support on their achievement. Paul said, "Before I came here I was only in reading like mastery 1 lesson 1, and now I'm in my fourth grade reading grade." Reading Mastery is a direct instruction reading program, formerly known as DISTAR, that the district uses. His statements indicate movement from the beginning first-grade material to the beginning fourth-grade material in the time span of 1 school year. What his intervention report adds to the full story of his improvement is that he not only improved academically and behaviorally, but he was declassified as a student with a disability, and is working at grade level. John spoke of his academic gains in equally measurable terms. "First when I started reading a book, I only went up to 25 words [per minute]. Then I got better at chunking and I went up to 139." When asked how Instructional Support had helped John, his mother responded,

> It's helped him in every single aspect of his life. It's helped him in the math, adding and subtracting, because he can read the word problems better, so he can answer the math problems. He loves to cook so he can read the recipes better. I mean, he loves to read at home to his sister, his older brother: he's just a different kid. It's wonderful: you don't know the difference it's made in his life, in my life, in the whole family's life.

The video-taped interviews confirm, in more descriptive detail, what the on-line individual student intervention reports revealed. The impact of Instructional Support on these two students is improved reading, reading fluency, reading comprehension, confidence, behavior, emotional outlook on school, math, and quality of life. The two interventions that most contributed to the improvement were strategies taught to the student and direct instruction by the IST.

Home support for the work being done at school was a factor that appeared in both of the video cases, mentioned by Paul and by John's mother. It is important to note

that in these two cases, John's mother, and Paul's grandparents worked with their children at home to practice reading and math, and to support homework. Home support among the other students in this study did not prove to be a highly contributing factor in the students' improvement. Considering the degree of improvement of both of these students, a question is raised about the degree to which the impact of intervention for the rest of the students served could have been enhanced by support from home.

Three-Year Analysis of Referral and Classification Rates

Introduction

I conducted an analysis of 3 years of data on the referral, classifications, and classification efficiency rate of the eight schools in this study as illustrated in Table 13. Referral rate is calculated by dividing the number of referrals to special education by the total student population. Calculation of this figure for purposes of evaluating 7 SHARE excludes students referred from preschool, students who move into the district from outside the region, and referrals for information only, because these are cases in which Instructional Support is not a possible prevention. Our regional goal is a 2% referral rate. Classification efficiency rate is a calculation of the number of students classified divided by the number of students referred. Our goal is 100% efficiency. The first year of data is 1997-1998 baseline data, the school year prior to the 1998 implementation of ISTs in these schools.

Table 13

Three-Year Referral Rates and Classification Efficiency Rates for Pilot Schools in Second Year of Implementation During the 1999-2000 School Year (In percentages)

School	Referral Rate			Classification Efficiency Rate			Aggregate Pilot School Referral Rate			Three-Year Aggregate Pilot School Rate
	1997-1998	1998-1999	1999-2000	1997-1998	1998-1999	1999-2000	1997-1998	1998-1999	1999-2000	1997-2000
Parley Coburn	4.11	1.77	3.58	85.70	73.33	71.43				
Big Flats	6.22	5.16	1.77	35.71	25.00	100				
BC Cate	2.30	3.75	1.66	83.33	88.88	100				
Hanlon	2.44	1.03	1.35	100	100	100				
Spencer	1.33	.53	1.46	60.00	0	60.00				
Watkins	2.11	1.22	2.11	66.66	85.71	100				
Lincoln	4.18	.28	.56	40.00	0	100				
Chemung	4.03	1.34	2.68	50.00	50.00	50.00				
PILOT SCHOOLS' REFERRAL RATE							3.44	1.91	2.10	2.49
PILOT SCHOOLS' CLASSIFICATION EFFICIENCY RATE							66.09	55.55	82.09	66.53

Note: Referral Rate = number of referrals divided by total population. Regional goal is 1-2%
Classification Efficiency Rate = Number of classifications divided by number of referrals. Regional goal is 100% efficiency.
1998 – 1999 was the first year of implementing the 7 SHARE Initiative.

Data Analysis

The data presented in Table 13 illustrates a reduction in the referral rate in the first year of 7 SHARE among these schools, from 3.44% in 1997 to 1.91% in 1998. The rate increased in 1999 to 2.10%. Both of the first 2 years brought the referral rate within one tenth of 1% of the target rate of 2.0%.

The 3-year average referral rate, including the baseline year, was 2.49%, a figure still below the baseline year. Table 14 illustrates reductions in referrals among individual schools in the first year of implementation ranged from a 93% reduction at the Lincoln school (15 to 1) to a 50% increase at the BC Cate school (6 to 9). The reduction in referrals was 45% among these eight schools in the first year of implementation (1998-1999), and the reduction was sustained in the second year (1999-2000) with 42% fewer referrals than the year prior to implementing Instructional Support. These statistics are particularly significant when viewed in light of a 13.20% increase in referrals across the seven school districts in the 5 years prior to 7 SHARE (1993-1998) (McNamara, 2001).

As is demonstrated in Table 13, at the same time that the classification efficiency rate decreased in the first implementation year from 66.09% in 1997 to 55.55% in 1998, the referral rate dropped from 3.44% to 1.91%. Efficiency then increased to 82.09% efficiency in the second year of implementation, 1999-2000, with a 3-year average of 66.53%. The only known change in the system, during the 1998-1999 school year, was the addition of the IST to each of these schools. That classification efficiency decreased while referrals decreased so substantially suggests that the referral system (team structure, procedure, and beliefs) did not improve the first year. Rather, the impact of the IST appears to have been the cause for the reduced referrals. The classification

Table 14

Three-Year Referral Rates and Classification Efficiency Rates for Pilot Schools in Second Year of Implementation During the 1999-2000 School Year

	Population			Referral			Classification			Referrals Three-Year Totals	Classifications Three-Year Totals
School	**1997-1998**	**1998-1999**	**1999-2000**	**1997-1998**	**1998-1999**	**1999-2000**	**1997-1998**	**1998-1999**	**1999-2000**	**1997-2000**	
Parley Coburn	851	847	783	35	15	28	30	11	20	78	61
Big Flats	450	465	450	28	24	8	10	6	8	60	24
BC Cate	260	240	241	6	9	4	5	8	4	19	17
Hanlon	328	291	296	8	3	4	8	3	4	15	15
Spencer	375	380	343	5	2	5	3	0	3	12	6
Watkins	568	575	570	12	7	12	8	6	12	31	26
Lincoln	359	359	357	15	1	2	6	0	2	18	8
Chemung	149	149	149	6	2	4	3	1	2	12	6
TOTALS	3340	3306	3189	115	63	67	73	35	55	245	163

Note: These data represent the actual numbers of students, referrals, and classifications. Classification Efficiency Rate (as reported in Table 14) = Number of classifications divided by number of referrals.

efficiency rate is significant for school districts relative to effective use of resources. When students are referred to special education, significant time and fiscal resources are devoted to the referral, testing, and reporting processes. More effective use of these resources over time has been cited as a fiscal benefit that can help schools fund Instructional Support in favor of the more costly deficit model that special education represents (Hartman & Fay, 1996). Resources previously used in the refer/classify system are then available to be redirected to teaching and learning intervention within classrooms.

In light of the question of impact of Instructional Support on the individual students served, the referral and classification efficiency rate data show a noteworthy picture. From the first to second years in these eight schools, 52 fewer children were referred to special education, and in the second year, 48 fewer than the baseline year. For these individual students the difference is turning failure into success within the general education curriculum and classroom environment. For Paul, the process went further than prevention, and resulted in declassification, a successful return to the general education curriculum and environment. The case study student's reports indicated increased confidence, increased achievement, improved behavior, and improved overall quality of life. If the previous referral escalation of 13% every 5 years had continued, these eight schools could have seen these 48 students plus an additional 15 students in special education by 2004. Such an increase of up to 63 students in the special education system would have increased the cost of special education in these schools. More important than increased cost to the district would be the detrimental effects on the students who would have failed and may have been referred to special education.

Contrasted with John's and Paul's positive outcomes, without intervention, these potential 63 students might have experienced academic failure, decreased confidence, might have exhibited negative behavior, and experienced the negative effects of school failure in their home environments.

CHAPTER 6

SUMMARY AND CONCLUSIONS

Summary of the Study

The purpose of this study was to explore the impact on students served in the prevention and intervention model called the 7 SHARE Initiative. Students served by 7 SHARE are those who are at risk of failing and/or becoming inappropriate referrals to special education due to the system's failure to create an instructional match for them in assessment and instruction. The goals of the 7 SHARE Initiative are: (a) to prevent student failure, (b) to increase student achievement, and (c) to prevent inappropriate referrals to special education.

The essential systems change necessary to achieve these outcomes is the implementation of Instructional Support with four essential components: a) Curriculum-Based Assessment as developed by Edward E. Gickling, b) Instructional Support Teachers (ISTs) and Classroom Intervention Model (CIM) Teams in every school, c) job-embedded staff development through the in-classroom modeling by the IST of research-proven instructional practices and through guided-practice for CIM teams, and d) regional networking of teachers for the purpose of sharing effective practices within and across school districts. This study has focused on examining the impact on students served of three of these components: (a) the role of the IST in using CBA to establish a student's instructional level and to identify effective strategies to meet the student's

needs, (b) the provision of direct instruction in these effective strategies to the student by the IST, and (c) the modeling of these strategies for teachers within their classrooms for class-wide applications. This study is a responsive, constructivist, utilization-focused program evaluation employing an insider/outsider research team. The study uses the cross-case analysis of qualitative and quantitative data from individual student intervention reports, video-taped interviews, one longitudinal case study, and school referral and classification data to answer the question, "What is the impact of Instructional Support on the individual students served by the 7 SHARE Initiative?"

Findings

The data from the four sources reveal a number of positive outcomes for students–outcomes that turn the nature of school experiences for the majority of students who were served from failure to success. The outcomes for students served included academic improvement for 76% of students served, specifically in the areas of reading, writing, study skills, organization, math skills, and grades. In addition to academic improvements, the data indicate improvement in behavior for 37% of students served, even though behavior was the primary problem in only 12% of the student reports. For one student, Instructional Support contributed to his success in moving from being classified as emotionally disturbed, with a one-to-one aide, to declassified and successfully functioning at grade level. Even a portion of students who ultimately were referred for special education evaluation, 504 accommodations, and/or retained, experienced improved performance in academic skills. These students were considered more appropriate referrals, since extensive intervention to resolve the problem had been implemented and found to be insufficient.

The data revealed substantial improvement in specific areas of academics. One student's longitudinal case study revealed a reading fluency improvement from 53 to 154 words-per-minute through the teaching of specific strategies, over four sessions with the IST. Another student reported moving from the entry-level first-grade material to fourth-grade material in 1 school year. The data indicate improvement in fluency, comprehension, and math. In addition to academic and behavioral gains, the data reveal increased confidence, participation in class, motivation, and overall quality of life.

An unexpected finding was the rank order of specific interventions in their connection to student improvement. The use of a Variable-to-Variable Matrix enabled the examination of connections between specific interventions and student outcomes. The top three interventions, in order of most-to-least connected to student improvement, are strategies taught to the student (59% of student reports indicated strategies taught to the student and academic improvement without subsequent referral or retention), 10 or more sessions of direct instruction with the IST (50% of student reports indicated 10 or more sessions and academic improvement without subsequent referral or retention), and in-classroom modeling and/or support of strategies found effective with the student, for whole-class applications (48% of student reports indicated in-class modeling and/or support and academic improvement without subsequent referral or retention). Referral prior to fourth grade and referral early in the school year were fourth and fifth in rank. Home involvement with the IST was the least connected of six variables examined, but was reported in the cases of the two students interviewed.

The multiple data sources indicate that the impact on the majority of students served by ISTs in the 7 SHARE Initiative was academic improvement, and that the

intervention variables most connected with that improvement are strategies taught to the student by the IST, 10 or more direct intervention sessions with the student by the IST, and in-class modeling of strategies and/or support for the classroom teacher for the purpose of implementing the strategies with all students. The outcomes data and multiple sources of data that illustrate each area of improvement are illustrated in Table 15. The representation of the data in this manner reveals the areas of triangulation of the data results. The areas in bold text are those that appear across the four data sources.

In response to the question of the impact on individual students, academic improvement appears in three of the four data sources, with specific examples cited in two. Reduced numbers of students referred to special education appear in two of the four sources, and the variable matrix revealed that 68% of those referred to CSE or 504 also showed academic improvement. Paul's student intervention report, which I reviewed from the on-line database, revealed that he went beyond prevention, and was declassified.

The secondary research question that emerged during this study was, "What intervention variables are most connected to improvement in the students served?" Strategies taught by the IST emerged as the most connected intervention, and appeared in three of the four data sources. The interviews and case study revealed specific names of strategies taught, each of which directly corresponded to the reason for the initial request for IST intervention.

Table 15

Cross-Data Analysis of Outcomes

	Individual Student Reports: Percentages and Variable Matrix Analysis	**Video Interviews: Two Students and One Parent**	**Longitudinal Case Study of One Student**	**Three-Year Referral and Classification Efficiency Data**
What is the **impact** of Instructional Support on the individual students served by the 7 SHARE Initiative?	• 76% (the majority) of students **improved academically** • 37% **improved in behavior**, while only 12% were referred for behavior • 14% referred to CSE • 3% referred to 504 • 11% retained • **68% of those referred to CSE/504 also showed improvement**	• John reported **improving in reading fluency** from 25 wpm to 139 wpm, and sounding more fluent • Paul reported **improving in reading mastery** from beginning 1st grade material to beginning 4th grade material in one school year • Paul was **declassified as emotionally disturbed.**	• John's **reading fluency improved** from 53 wpm to 154 wpm in four sessions • John improved in **reading fluency, confidence, participation in class, and motivation**	• 108 potential referrals to special education, in eight schools, averted • **45% fewer students were referred** to special education in the 1st year, 42% fewer in the 2nd
What **intervention variables** are most connected to improvement in the students served?	• **92% (the majority) of students were taught strategies**: most connected to student improvement • The 2nd most connected variable in student improvement was **10 or more sessions with the IST.** The mean number of sessions was 17.	• John reported learning the **strategy "chunking" from the IST**, and **modeling it in his classroom.** • Paul reported **learning the vocabulary strategies** "pocket words" and "word search" and using them in multiple subjects. • Paul reported **talking with the IST about his behavior.**	• In sessions with the IST, the **IST taught John fluency, pre-reading, comprehension, and vocabulary strategies** • The IST and John **modeled the strategies in John's classroom.**	IST was the only change in the system. **The IST as the most connected to reduced referrals** to special education.

Table 15 – *Continued.*

	• 45% of reports indicated **in-class modeling** • 72% indicated **in-class support** • In-class modeling and support were the 3rd most connected variables in student success. • 34% indicated **home involvement,** 24% indicated improvement, making home involvement the least connected variable in student improvement	• John's mom gave full credit for his improvement to his **direct instructional sessions with the IST.** • The transcripts of the three interviews indicate **improvement in reading, confidence, behavior, emotional outlook on school, math and quality of home-life.** • **Strategies taught and sessions with the IST** were the interventions most connected to student improvement. • **Home support** was a contributor to student success in both students.		

Note. Boldface indicates findings that appear across the four data sources.

The second most connected variable is inseparable from the first: 10 or more sessions of direct instruction with the IST. Direct intervention by the IST was confirmed across all 4 data sources. In-class modeling of strategies and support were mentioned in 3 of the 4 data sources. Home involvement was mentioned in 2 of the 4.

Taken together, the data in this study suggest that 3 specific interventions, when combined, are effective in reversing student failure and preventing inappropriate referrals to special education: (a) using CBA to establish instructional level conditions, (b) direct instruction of strategies to the student in 10 or more one-on-one sessions, with sufficient

repetition to enable automaticity and mastery, and (c) in-classroom modeling of effective strategies for implementation with all students. The data in this study suggest that the presence of the IST in a school to provide these interventions has been the systems intervention that has resulted in improvement for individual students and significant reductions in referrals to special education. These findings support the work of Ellis and Fouts (1997) who found that the 4 educational innovations that have proven over time to impact student achievement (level 3 research) are (a) authentic assessment (CBA is one form), (b) direct instruction, (c) mastery learning, and (d) cooperative learning (the form in which ISTs deliver many of the class-wide applications of effective strategies). The current study confirms the work of Kovaleski et al. (1999) by indicating that implementing these specific interventions in a prescribed model positively impacts both individual students and systems data.

Impact of This Study

Impact on the Body of Instructional Support Literature

One contribution that these data make to the body of literature on Instructional Support is the demonstration of the positive impact of Instructional Support, as designed by 7 SHARE, grounded in the concepts and practices of CBA, on the success of individual students served by ISTs. The need to answer the question of individual student impact has been repeatedly articulated in the prereferral literature (Nelson et al., 1991; Safran & Safran, 1996; Straut & Kluth, 1999). This study reports improved reading, math, writing, study and/or organizational skills for the majority of students served.

Beyond the student impact, this study demonstrates the specific interventions that contribute to student improvement through Instructional Support, in a prioritized order. The intervention most important to the success of the students in this study was the teaching of strategies to the student by the IST. Second was working directly with the IST for 10 or more one-on-one sessions. Third was the in-classroom modeling and/or other in-classroom support for instruction provided for classroom teachers by the IST. Referral to the process prior to fourth grade, and referral early in school year were fourth and fifth in impact. Home involvement was sixth, but appeared in both student case studies.

The current study addresses another question left unanswered by the existing prereferral intervention literature regarding how those students who do not qualify for special education services, but do receive instructional interventions, achieve in the general education classroom. The variable-to-variable matrix used in this study suggests that 68% (15) of those referred to CSE/504 also showed improvement as a result of strategies taught to them in sessions with the IST, and the in-classroom modeling and support provided to their teachers. These data suggest that Instructional Support helps students achieve better in the general education classroom, and has a potential secondary impact in helping to create classroom environments that are more supportive of students with disabilities educated in inclusive settings.

Impact on Individual Students

The reduction in special education referrals was 45% among these eight schools in the first year, and the reduction was sustained in the second year with 42% fewer referrals than the year prior to implementing Instructional Support. These figures

translate into 52 fewer children who were referred to special education from the first to second years of IST, and in the second year, 48 fewer than the baseline year. For these individual students the difference has meant success within the general education curriculum and classroom rather than the disruption, failure identity, and stigmatization that can accompany special education classification. For Paul, the process contributed to declassification, the removal of the label "emotionally disturbed," the elimination of a one-on-one aide, and his successful return to the general education curriculum and environment. In addition, the instructional support process has contributed to increased confidence, academic success, and his successful socialization with his peers. If the eight schools in this study were to have continued on the previous regional referral escalation path of a 13% increase every 5 years, they potentially would have seen these 48 students plus an additional 15 students classified, for a total of 53 more students classified by the 2004 school year. Instead the results for these 48 students were the prevention of failure and improved achievement, brought about by strategic intervention.

Additional impacts on the students served were reported in terms of increased confidence, increased achievement in specific measurable areas, improved behavior, and overall quality of life. Students have become more independent, and they have become strategic learners, as evidenced by their detailed descriptions of the strategies they have learned and continue to use to increase their reading fluency and comprehension. These improvements have been credited by multiple data sources to the specific interventions by ISTs.

Disconfirming cases, as indicated by those students reported as "not improved," represent 16% (23) of those students to whom strategies were taught by the IST. Of these

23 students, 43% (10) were referred to CSE, 504, or retained. While Instructional Support did not result in improvement and prevention of a referral for these students, it is logical to assume that these students were appropriate referrals to special education, having had substantial prereferral interventions. It is possible that the special education teachers who received these students were given more specific and detailed instructional information than they might have had without the CBA and intervention data. The real intent of prereferral intervention should be to discover what works with individual students, and how they respond to specific instruction. If such a result occurred for these students, then this can be counted as another benefit of Instructional Support.

Recommendations for Further Research

One area for further research regarding Instructional Support is more study in the sustainability of the systems change. While our districts had hoped to see financial savings through the reduction of referrals to special education and the resulting shift of resources to Instructional Support, that result did not occur for a number of reasons. First, at the same time these schools began 7 SHARE, school districts also increased their use of co-teaching between special and general education teachers, increasing the numbers of students educated in general education classrooms. Quality implementation of co-teaching often requires more, not less, staff. Second, these school districts have maintained more severely disabled students in district-run programs, rather than sending them to outside programs. A study of the costs of special education in one school district (McNamara, 2001) revealed that 83.2% of the local cost of special education services in that district was attributed to 19 students in the high cost category. These increased costs have created barriers for financing the additional position of an IST in each school, which

translates in the largest district into 13 additional teaching positions, and in the smallest district into three. With the increasingly dismal state of the economy and diminishing state resources, school districts find it hard not to cut ISTs, despite the impact data. A longitudinal study that could link IST interventions to improved outcomes on state assessments, or the development of a process for translating individual student CBAs into aggregate portraits of student achievement would be welcomed by district decision-makers and would provide an incentive for districts to stay the course.

Longitudinal case studies on a large sample of students would yield a picture of the impact of early intervention on the achievement of students over time. Such a study is underway with three students in the 7 SHARE Initiative. A larger sample, one that includes transition from elementary through middle and high school, would add great value to the instructional support literature.

Implications for Replication

In this era of high-stakes testing, the potential exists for a return to escalating special education and 504 referrals, at least for the benefit of test accommodations on state exams. The potential also exists for escalating retention and dropout rates, two data points that school districts must monitor as accountability for test results increases. The current high-stakes, high-pressure, high-accountability era is precisely the time to watch very closely the achievement, confidence, and quality of life of individual students. This is precisely the time to focus systems change efforts on the kinds of support systems created for students and teachers by endeavors such as the 7 SHARE Initiative.

The data on the impact of the 7 SHARE Initiative on the students served and on the system suggest steps that schools can take to reverse the problems of student failure and high referral rates.

1. First, at the earliest sign that a student is struggling academically, CBA as developed by Gickling (Gickling, 2000; Gickling & Thompson, 1985) should be used to discover specifically what the student knows at an automatic level, which specific skills the student needs to know, and which specific strategies work to teach the needed skills to the student.

2. Next, direct and explicit instruction should be given to the student in these strategies, with sufficient repetition to ensure automaticity and mastery. This step provides students not only with the needed skill to improve the current struggle, but empowers the student with strategies that can be used independently to prevent future difficulties.

3. Concurrently with and subsequent to direct instruction with the individual student, strategies found effective should be modeled for teachers to implement with the entire class. This transfer of specific effective strategies to the classroom is essential in maintaining the gains attained in individual sessions and is thought to prevent similar struggles by other students.

4. Schools should commit resources to adding a full-time Instructional Support Teacher to their staff. The addition of an IST in each school has been the systems-intervention that has made the student and classroom interventions possible in the schools in this study. Prior to the addition of ISTs, the schools in this study had attempted to implement the interventions with intervention teams alone. They did not get the results

in improved student achievement and lowered referral rates, primarily because the members of their teams had full-time responsibilities in addition to their role on the team. They didn't have time to conduct the CBA and direct instruction processes with individual students, nor to model strategies for teachers in classrooms. Dedicating a full-time person to the job of working with the team, with individual students, and with teachers is the systems-intervention that enabled these schools to achieve the desired results.

5. Implementation integrity is a factor in achieving desired results. Beyond adding the IST, it is essential to limit the role of the IST to that which is prescribed. Program evaluation data not included in the current study demonstrate that when the IST is asked to fulfill other roles within the school, in addition to those prescribed by the model, the results in referral rates and student improvement are compromised. It is recommended that school leaders implementing such a model maintain the integrity of the model and the role of the IST.

In the metaphor of the Hole in the Pipe, the schools in this study became systems-thinkers, rather than filter-changers. Prior to 7 SHARE one filter these schools used was their over-reliance on special education as the only intervention when teachers could not solve students' academic struggles on their own. Like the schools in 7 SHARE, schools that choose to become systems thinkers should begin by getting to the root cause of the problem, the hole in the pipe. Among the schools in this study, the hole in the pipe was the system's failure to intervene early and systematically in the struggles of students and their teachers. CBA proved to be the root cause analysis tool that led assessors not only to the cause of the problem for a student, but also to effective interventions for the

students and the teachers. Direct instruction of strategies to the students was the process used to repair the problem, and multiple intervention sessions was the way to ensure that the repair was maintained. In-classroom modeling of the strategies was the systems intervention used to sustain the results and to attempt the prevention of future problems. The program evaluation process was the vehicle for continuously evaluating the system for the purpose of continuous improvement. These schools fulfilled their goals because they analyzed the system and fixed the hole in the pipe.

Student achievement and support for effective instruction are complex issues that call upon educators to examine and fulfill the moral purpose of education: educators, educational leaders, parents, students, and community members all bear the responsibility for creating the instructional conditions in which students and teachers can thrive and succeed. Schools are complex systems, and solving their equally complex challenges requires a systems-approach. It is hoped the story of the systems–change known as the 7 SHARE Initiative, told through the experiences of the students served, will inspire other districts to resist the status quo and take on the challenge of becoming systems thinkers.

APPENDIX A

ASSESSMENT OF LEVEL OF IMPLEMENTATION OF THE ELEMENTS OF THE 7 SHARE MODEL

Please rate each item using the following guidelines: 0=no implementation yet, 1=low level of implementation to 4=fully implemented

Staff Development Elements					
	0	1	2	3	4
1. IST has attended core CIM Team Training -3 days with Barb and Jean					
2. All members of current CIM team have attended core CIM Team Training-3 days with Barb and Jean					
3. The principal has attended core CIM Team Training-3 days with Barb and Jean					
4. IST has attended two day Instructional Assessment Training					
5. All members of current CIM team have attended Instructional Assessment Training					
6. Reading teacher has attended Instructional Assessment Training					
7. Principal has attended Instructional Assessment Training					
8. Entire faculty has had 7 SHARE awareness training-2 hours with Barb and Jean					
9. IST participates in monthly guided-practice with consultants					
10. IST participates in monthly networking meetings					
11. Entire faculty has participated in Data Analysis Process Training-2 hours with Barb, Jean, Linnea					
12. Entire faculty has participated in CIM Team Access Awareness presented by building CIM Team					
13. IST follows staff development process of; assessment, teach strategies to student, model/coach classroom teacher					
14. Teachers seek IST/CIM Team for in-class training opportunities					
15. All professional staff share skills, strategies and successes					
16. Principals participate in training opportunities with consultants					
17. Principals participate in guided-practice opportunities with consultants					
18. Principals participate in training on the assessment and application of the 14 Instructional Components					
19. Principals participate in tool software training on how to track, manage, and analyze data					
20. All professional teaching staff participate in training needed to demonstrate competencies in the Regional New Teacher Document					

21. All professional teaching staff participate in training needed to demonstrate competencies in the Regional Technology Teacher Proficiency Checklist					
22. All professional teaching staff participate in training in tool software to track, manage and analyze data					
23. All professional staff participate in Resiliency Overview:2 hours					
24. All professional teaching staff participate in training needed to align within and across grade levels, instruction, assessment, and the Standards					
25. CIM Team actively participates in guided-practice/coaching from consultants					
26. CIM Team actively participates in training of root cause analysis in the CIM Team Process					
TOTALS					
Organization and Management Elements					
25. Principal actively participates in the CIM Team Process					
26. Building maintains an active CIM Team					
27. CIM Team follows the problem-solving process including a discussion on strengths, weaknesses, and the use of root cause analysis and pareto, including all appropriate stakeholders such as parents					
28. All professional staff attend and participate in the CIM Team Process when appropriate					
29. IST manages the collection and dissemination of data in relation to (interventions)					
30. CIM Team manages the collection and dissemination of data in relation to (?)					
31. All professional teaching staff manage the collection of student achievement data from their classrooms					
32. Principal has established and uses building level systems to collect and track clean data					
33. Principal has established systems that allows teachers to professionally collaborate					
34. All professional teaching staff have systems in place in the classroom to hold students accountable for learning					
35. All professional teaching staff utilize systems to determine; where is this student now in relation to the content, where does this student need to be, what do we need to do to fill the gap?					
36. Principal and district systems hold all professional teaching staff accountable for demonstrating core teaching and technology competencies					
37. Superintendent and district systems hold principal and all teaching staff accountable for continuous improvement of student achievement					

38. Building systems allow opportunities for grade/cross grade level groups to meet to review data, improve curriculum and align to assessments and Standards					
39. CIM Team has established procedures to monitor 7 SHARE program integrity					
40. CIM Team has established processes for access and has communicated building-wide					
41. CIM Team utilizes effective team processes					
42. IST and CIM Team have established and communicated procedures for teachers, parents, students to ask for help when needed					
43. All professional staff approach student improvement from a proactive rather than reactive methodology					
44. All professional staff are aware of state student achievement expectations, where their students are currently achieving in relation to the Standards and continuously plan to meet the gaps					
45. The staff has established multiple procedures to measure student achievement and track student progress					
46. All professional staff has a clear understanding of the required State plans and how 7 SHARE is integrated in all plans					
47. District has established a universal lesson design and systems are in place to ensure all related staff understand and utilize the universal lesson design					
48. IST is released from duties to provide full time support to the 7 SHARE process					
TOTALS					
Student Assessment Elements					
49. All professionals utilize multiple measures to determine level of student performance					
50. All professional teaching staff utilize instructional based assessment					
51. All professional teaching staff understand and utilize the instructional match					
52. Principals provide feedback and coaching on a continual bases as well as in the formal evaluation for the application of instructional match					
53. All professional staff align curriculum, instruction and assessment with the Standards					
54. IST and all members of the CIM Team use, recommend, teach and coach others in the use of a variety of appropriate assessments and data gathering tools					
55. All professional staff utilize technology as a tool to gather, manage, track and analyze data and have taught students how to do the same (at appropriate levels)					

56. IST follows the processes of conducting instructional based assessments, identifying the instructional match, tracking and reporting student progress					
57. All professional teaching staff gathers, tracks and provides information, when appropriate on what students know and can do					
TOTALS					

Design and Implementation of Classroom Interventions					
58. IST designs and implements interventions with individual students, with teachers and with CIM Team Members linked to the 14 Instructional Components					
59. CIM Team Members actively participate in the design and implementation of classroom interventions linked to the 14 Instructional Components					
60. Principal raises the support and pressure for all professional teaching staff to actively participate in the design and implementation of classroom interventions					
61. All professional teaching staff actively participates in the design and implementation of classroom interventions					
62. Principal actively participates in the design and implementation of classroom interventions as part of the CIM Team, as an instructional leader, and as part of the informal and formal evaluation process					
63. All professional teaching staff gathers, documents and reports data about how well the classroom intervention is working					
64. All professional staff understand and apply the action research process when appropriate					
65. All professional staff incorporates Resiliency into classroom interventions					
66. IST and CIM Team Members utilize the skill of questioning to focus the design of classroom interventions					
67. All professional staff ensure classroom interventions address the established root cause					
TOTALS					
Collaboration Elements					
68. Professional teaching staff share successful interventions, materials, lessons, and units with colleagues					
69. Principal recognizes grade level or cross grade level continuous improvements					
70. Professional teaching staff, CIM Team Members, and IST celebrate individual student successes					
71. IST gathers, reports and shares regional requested data to					

Coordinator of 7 SHARE office in format requested, and other appropriate audiences					
72. CIM Team gathers, reports and shares regional requested data to Coordinator of 7 SHARE office in format requested, and other appropriate audiences					
73. Principal gathers, reports and shares regional requested data to Coordinator of 7 SHARE office in format requested, and other appropriate audiences					
74. Principal ensures building decision making team gathers, analyzes and reports student achievement data					
75. Principal ensures CIM Team communicates with other teams such as building decision making team to coordinate student achievement efforts					
TOTALS					

Reflection and Analysis Elements					
76. Principal constantly reviews data to determine level of implementation of 7 SHARE building-wide and determine adjustments or improvements needed to building systems					
77. All teachers constantly review data to determine adjustments or improvements needed to achieve the instructional match for all students and the continuous improvement of student achievement as determined by multiple measures					
78. CIM Team constantly reviews data to determine building-wide, class or grade level adjustments to the 14 Components of the Instructional Environment					
79. IST and/or CIM Team and/or teaching staff reviews data to determine the degree of success of classroom interventions					
80. IST and/or CIM Team and/or Principal reviews data to determine adjustments or improvements needed for systems to support the successful implementation of the 7 SHARE Model					
TOTALS					

GRAND TOTAL OF ALL SECTIONS Highest possible rating = 320					

APPENDIX B

CIM/GRADE-LEVEL TEAM OBSERVATION

School and Team: _____ Reviewer: _____ Date: _____

Rate the degree of the team's implementation of each of the steps of the Regional Collaborative Problem-solving process. Use the comment section to identify evidence to support your rating.

1. Open with Introductions & Structure (e.g. using roles, meeting purpose, agenda)

   1 2 3 4 5
   Low degree High degree

   Comments: _____

2. Use CBA to analyze Student Academic Strengths (refer to CBA questions, student data)

   1 2 3 4 5
   Low degree High degree

   Comments: _____

3. Use 14 components in Analyzing Causes of Success (across settings & content areas)

   1 2 3 4 5
   Low degree High degree

   Comments: _____

4. Use data to Analyze Areas of Concern or Patterns.

   1 2 3 4 5
   Low degree High degree

   Comments: _____

5. Stay within Circle of Influence.

   1 2 3 4 5
   Low degree High degree

   Comments: _____

6. Select a Priority Concern or Pattern (within circle of influence)

   1 2 3 4 5
   Low degree High degree

Comments: _____

_____

7. Use '5-Whys' process to determine Root Cause: Recognize when they're at root cause.

1 2 3 4 5
Low degree High degree

Comments: _____

_____

8. Identify Strategies that address Root Cause/Priority Concern

1 2 3 4 5
Low degree High degree

Comments: _____

_____

9. From where do team members draw the strategies?

Comments: _____

_____

10. Select Strategies for Trial Teaching (decide on time-table, who's responsible)

1 2 3 4 5
Low degree High degree

Comments: _____

_____

11. Decides with teacher on a realistic, yet short trial-teaching time-table; promptly checks back with teacher on the impact of the strategies.

1 2 3 4 5
Low degree High degree

Comments: _____

_____

12. Design an Intervention Plan with Evaluation (includes in-classroom support for teacher implementation, time-table, who's responsible, data used to measure impact).

1 2 3 4 5
Low degree High degree

Comments: _____

_____

13. Communicate, Implement, & Evaluate plan.

1 2 3 4 5
Low degree High degree

Comments: _____

_____

APPENDIX C

Individual Student Intervention Report: CIM TEAM

Completed By: **Date:** **Year:** 1999-2000

Student ID

Student Name

District/Building: Center Street Elementary

Grade Level

Start Date End Date

Total Contacts

Request made by:

- ☐ Teacher
- ☐ Counselor
- ☐ Social Worker
- ☐ Nurse
- ☐ Parent
- ☐ Psychologist
- ☐ Admin
- ☐ IST
- ☐ CIM/CST
- ☐ Other

NATURE OF THE PROBLEM

☐ **Academic:**

☐ Reading/Writing ☐ Study Skills/Organization ☐ Math ☐ Assessment Performance

☐ Grades ☐ Other

☐ **Behavior:** ☐ **Social:** ☐ **Emotional:** ☐ **Health/Wellness** ☐ **Attendance**

NATURE OF THE INTERVENTION(S)

☐ **Instructional Strategies:**

☐ Reading/Writing ☐ Study Skills/Organization ☐ Math

☐ Grades ☐ Other

☐ **Modeling Strategies** ☐ **Observation/Consultation** ☐ **Classroom Support**

☐ **Home Involvement** ☐ **Team Involvement with IST** ☐ **Behavior Support Plan**

☐ **Resiliency Plan** ☐ **Counseling**

☐ **Intervention by Staff Member (check):**

☐ **Classroom Teacher** ☐ **Co-Teacher** ☐ **Peer Tutor**

☐ **Guidance Counselor** ☐ **Reading Specialist** ☐ **IST**

☐ **Social Worker** ☐ **Math Specialist** ☐ **Community Volunteer**

☐ **Parent** ☐ **Administrator** ☐ **Psychologist**

☐ **Agency Involvement**

☐ **Other Intervention(s):**

RESULTS OF THE INTERVENTION(S)
(Where possible, include student data to demonstrate improvement)

☐ **Academic Improvement:**

☐ Reading/Writing ☐ Study Skills/Organization ☐ Math ☐ Assessment Performance

☐ Grades ☐ Other

☐ **Behavior Improvement:**

☐ Increased Positive Behavior ☐ Increased On-Task Behavior

☐ Increased Self-Confidence ☐ Increased Independence

☐ **Attendance Improvement** ☐ **Health/Wellness Improvement**

☐ **Social Skills Improvement** ☐ **Emotional Improvement**

☐ **Classroom Modeling of Strategies** ☐ **Follow-up Planned**

☐ **Referral to CSE**

☐ Classified, Special Education Services Recommended

☐ More Restrictive Placement (already classified student)

☐ Less Restrictive Placement (already classified student)

☐ **Referral to 504** ☐ **Retained**

☐ **Other (explain)**

Comments:

Submit This Report

APPENDIX D

REFERRAL DATA

School District: _____

Year: 1999-2000 July 1st, 1999 through June 30th, 2000

Data reported as of October 15, 2000

District Data:

A Total Referrals	B Referral From CPSE	C For Information Only Referrals	D Private School Referrals	E Incomplete Referrals	F = A minus (B+C+D+E) Referrals generated within district

G. Classification Data

Number of students classified by CSE (July 1st through October 15, 2000 who were referred July 1, 1999 through June 30, 2000).

H. Classification Rate = G/F

Referral Rate = F/Total Public School Population on Opening Day of School

Building Data: _____

A Total Referrals	B Referral From CPSE	C For Information Only Referrals	D Private School Referrals	E Incomplete Referrals	F = A minus (B+C+D+E) Referrals generated within district

Classification Rate = G/F
Referral Rate = F/Total Public School Population on Opening Day of School

RETURN TO DAVE MCNAMARA AT VAN ETTEN ELEMENTARY BY FRIDAY, OCTOBER 18, 2000

REFERENCE LIST

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PRESENT POSITION

1992 to present: Schuyler-Chemung-Tioga Board of Cooperative Educational Services (BOCES) SETRC, Elmira, NY

Special Education Training and Resource Center (SETRC) and Classroom Intervention Coordinator

- Coach school districts and BOCES programs through data-informed, long-range staff development planning, that will increase the ability of staff members to implement effective instructional practices, resulting in higher student achievement.
- Coordinate and manage the SETRC project, including fiscal, human, and professional development resources.
- Develop, coordinate, provide staff development for, and evaluate the 7 SHARE Initiative: Implementing instructional support in every school within seven school districts.
- Design and deliver quality staff development, modeling best practices supported by research, planned in collaboration with the customer, including training in the 7 SHARE Initiative, Teaming, Instructional Support Teacher Role, Collaborative Co-Teaching, Differentiating Instruction, Data-Driven Instructional Decision-Making, Curriculum-Based Assessment, Effective Reading Strategies, Developing Instructionally Relevant IEPs, Special Education Process and Regulations.
- State and National Presentations of the 7 SHARE Initiative include:
  - New York State District Superintendents' Summer Retreat, Cornell University, 1999
  - VESID's Fourth Annual Benchmarking Conference, Saratoga Springs, NY, 1999
  - 7 SHARE Showcases for Statewide Administrative Teams, 2000
  - New York State Special Education Training and Resource Center, 2001-2002.
  - National AERA Conference in Seattle, WA, 2001
  - New York State Delta Kappa Gamma Convention, Corning, NY, 2001
  - National CSPD Conference sponsored by NASDSE, Washington, D.C. 2001
  - New York State BOCES Symposium, Syracuse, NY, 2001
  - Canandaigua NY Area Administrators, Canandaigua, NY, 2001
  - Presentation to Senator Hillary Clinton and Dr. Jesse White, 2002
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