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A Study of the Prereferral Intervention Process in Pennsylvania Following the Rescinding of the Instructional Support Team Mandate

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A STUDY OF THE PREREFERRAL INTERVENTION PROCESS IN PENNSYLVANIA FOLLOWING THE RESCINDING OF THE INSTRUCTIONAL SUPPORT TEAM MANDATE

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Abstract

Title: A Study of the Prereferral Intervention Process in Pennsylvania Following the Rescinding of the Instructional Support Team Mandate

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The increasing demand for special education services has been identified as a major contributor to the rising cost of education, and frequently students are erroneously identified as requiring special education services when their needs could be adequately addressed in the regular education classroom. The prereferral intervention process has been proposed as an alternative to the traditional refer-test-place process of identifying special education students because struggling students receive extra help quicker and students' progress toward established goals is closely monitored to see if changes in instructional delivery are necessary.

This quantitative study utilized a survey method to investigate current prereferral intervention practices in Pennsylvania elementary schools since the removal of the Instructional Support Team mandate. Independent variables including the expertise of the individual coordinating the prereferral intervention program, administrative support, training availability, and data collection, were compared to the level of implementation (LOI) of the prereferral intervention process and the specific learning disability (SLD) incidence rate.

Elementary schools that continued to employ instructional support teachers had higher scores using the level of implementation of the prereferral intervention process rubric. Significant results were obtained between level of implementation and schools with prereferral intervention policies/procedures, schools that provide time during contracted hours to meet, schools with IST/prereferral intervention coordinators who participated in initial IST training, training in differentiated instruction, collection of different types of curriculum based assessments, and the use of data to determine whether a student who has had a prereferral intervention should be referred on for a multidisciplinary evaluation. Only one significant result was obtained between the independent variables and the SLD incidence rate, which was principal attendance at meetings, and this significant result was in an unexpected direction.

This study revealed that, although a large percentage of elementary schools continue to operate instructional support teams, several changes have transpired following the removal of the mandate. Continuing research is necessary to determine what variables are related to positive outcomes for struggling students so that they can receive the support they need early without the need for special education services until all other options have been exhausted.

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CHAPTER I

INTRODUCTION

The specific learning disability classification was introduced in 1977. In 20 years, the number of students identified with a learning disability increased 283% from 797,213 to 2,259,000 (VanDerHeyden, Witt, & Naquin, 2003). The possibility exists that without changes in the method in which students are identified in need for special education and related services that the numbers could continue to rise (Zins, Heron, & Goddard, 1999).

Some researchers have questioned whether the rapid rise in students being identified for mild learning disabilities can be attributed to the misidentification or over identification of these students (Vaughn, Linan-Thompson, & Hickman, 2003). Inconsistencies exist not only between different states, but across and within school districts in how students are identified as in need of special education services (Reschly & Ysseldyke, 2002). In one study, 52% to 70% of those students identified as in need of special education services would not have been deemed eligible based upon that state's eligibility requirements (VanDerHeyden et al., 2003).

One explanation for the rise in the identification of students with specific learning disabilities is that general education teachers have developed an overdependence on special educators to contend with difficult-to-teach students (Fuchs & Fuchs, 1988). As long as regular educators continue to believe that only special educators are qualified to teach difficult-to-teach students, referrals for special education services will most likely continue to increase.

Prereferral intervention teams that provide structured interventions and assistance for at-risk students and their teachers present an alternative to the traditional refer-test-place identification process and may improve the teacher's feeling of competence in addressing academic and behavioral difficulties (Flugum & Reschly, 1994). If interventions can be easily implemented in the regular classroom, then there will be less need for the more restrictive, costly special education placements that are not necessary for all students experiencing academic difficulties, especially those students with only mild deficiencies (Graden, Christenson, & Casey, 1985). Another benefit is the immediate assistance that is given to the student and the referring teacher through a problem-solving collaborative team approach which identifies the different variables involved in educating the child in the general education classroom (Fuchs & Fuchs, 1988). Through this problem-solving team approach, teachers can be supported in their efforts to have students continue to be instructed in the least restrictive settings (Zins, Heron, & Goddard, 1999).

However, similar to the variability which exists between states and within individual school districts when identifying students requiring learning support services, differences also exist in the prereferral intervention processes between states and across school districts, especially if the process is not mandated or is left to the discretion of the school district. In one nationwide survey, 43% of the special education directors of each state reported that their regulations required a prereferral intervention process, while 29% recommended this process (Buck, Polloway, Smith-Thomas, & Cook, 2003). Prereferral intervention teams differ in terms of the types of problems referred to the team, size of

the team, type of terminology used, and ownership of the process (Buck et al., 2003; Truscott, Cohen, Sams, Sanborn, & Frank, 2005).

Many states that are deciding to employ prereferral intervention approaches are proceeding without sufficient empirical support and inconclusive success rates because research on the prereferral intervention process has been sparse in identifying those factors that are indicative of good practice (Flugum & Reschly, 1994). One review of prereferral intervention research proposed that the process should involve clearly defined goals and objectives, involvement of educators with sufficient expertise and training to implement the approach, adequate resources to implement the process, and an effective evaluative system of the prereferral intervention process (Nelson & Smith, 1991).

The Instructional Support Team Process in Pennsylvania (PA)

The instructional support team (IST) process that was mandated for Pennsylvania school districts between 1990 and 1997 is an example of a prereferral intervention model, which through a five-year phase-in approach, attempted to change the way that students would be identified in need for special education. This IST initiative emphasized prereferral interventions in which the regular education classroom teacher adjusted or modified instruction or behavior management in the general education classroom before a request was made for a formal evaluation for special education services. Developed as a preventative measure, the early systematic assistance to students and teachers in the general education classroom was meant to reduce or eliminate inappropriate referrals or placements in special education and to support teachers in their efforts to deal with difficult-to-teach students (Kovaleski, Tucker, & Stevens, 1996). By 1996-1997 school

year, the last year of data collection, 56% of Pennsylvania schools were implementing ISTs (Kovaleski & Glew, 2006).

As part of the IST initiative, training and technical assistance was provided to the school districts by the Department of Education Instructional Support Team Project and Student Assistance staff. An instructional support consultant from the Statewide Support Initiative of Intermediate Units provided support to an average of eight elementary schools. In addition to formal training workshops, the instructional support teachers engaged in guided practice activities on-site, networked with other support teachers or teams, or were given assistance when the schools were ready to offer training for other members of their staff within the local schools.

To help fund the IST mandate that at least one elementary school within each school district have an active IST process by 1995, a stipend of $28,000, which was later raised to $29,000, was provided by the Pennsylvania Department of Education (PDE) to help cover the expense of hiring an instructional support teacher. This stipend was distributed for the first two years of implementing the process (Kovaleski & Glew, 2006).

Each school with an IST program participated in a validation process at the end of the instructional support team's second year of operation, which was utilized to assess how the IST program was operating within the elementary school. A validation team reviewed IST records, interviewed staff and parents, and conducted observations to determine whether or not the minimum requirements for an IST process were being implemented in the school: (1) employment of a support teacher, (2) operation of a screening and evaluation team process, which included at minimum the principal or designee, instructional support teacher, and student's teacher, (3) maintenance of minimal

data of the IST operation, (4) participation in state-sponsored trainings, (5) principal participation in the IST orientation and subsequent PDE trainings related to the IST process, (6) instructional support teacher participation in orientation and mandated PDE trainings combined with guided practice sessions with the IST consultant, (7) coordination by the school district of in-district training with IST consultant participation, (8) assessment of the referred student's identified problem and instructional level using curriculum-based assessment techniques, and (9) school documentation of retentions in grade, referrals for MDEs, placements in special education, and numbers of students served by the IST (Kovaleski & Rodriguez-Diaz, 1993).

The Prereferral Intervention Process in PA after the Removal of the IST Mandate

Despite the fact that the IST program appeared to meet the requirements that have been proposed to be linked to effective prereferral intervention practice (Nelson & Smith, 1991), and the fact that there had been reported positive reactions and outcomes of the IST program (Bickel, Zigmond, & McCall, 1998; Bickel, Zigmond, McCall, & McNelis, 1999; Hartman & Fay,1996; Kovaleski, Gickling, Morrow, & Swank, 1999), the IST mandate was removed in 1997, approximately two years after the fifth and final phase of implementation.

Individual school districts were permitted to decide which process would operate within their elementary schools to fulfill the screening requirement of Chapter 14 of the Pennsylvania Department of Education regulations (2001). School districts could elect to continue using the IST model or to create another comprehensive screening method that met certain requirements: (1) collection of curriculum-based or performance-based

assessments for students with academic difficulties, (2) systematic observations of students with behavior problems, and (3) data-based interventions to address the skill deficits discovered through the assessment process.

Bickel, Zigmond, McCall, and McNelis (1999) conducted a study to determine which Pennsylvania school districts were planning to continue their IST programs, despite the removal of the state mandate. They also collected feedback from educators and administrators as to what they considered to be "best practice" in relation to an IST intervention. The investigators sent out questionnaires to 500 school districts, which were returned by 406 school districts for a return rate of 81.2%. Eighty-nine percent of the 406 districts (361 school districts) planned to continue to utilize the instructional support team that was currently in place at their elementary school. Six percent of the districts were undecided, but were considering modifying the IST process to suit their needs. Four percent were electing to discontinue the IST process because it failed to live up to their expectations. Some of the districts eliminating IST teams were electing to incorporate their prereferral intervention into pre-existing support services.

According to the Bickel et al. (1999) study, districts choosing to continue the IST model were doing so for a variety of reasons. They espoused that instructional support teachers assisted the regular education teacher with the designing and implementation of instructional strategies. Referred students were taught organizational and study skills and were given homework assistance. The IST intervention often helped to improve home/school communication. Some school districts had noticed reduced disciplinary referrals, reduced grade-level retention, and improved utilization of resources. Many others were using the IST process to help them comply with IDEA requirements since an

IST intervention often resulted in more inclusion, data to assist with identifying need for special education services required as part of a multidisciplinary evaluation, and reduced special education referrals and placements. Those IST practices reported as being most closely linked with teacher satisfaction related to the practice included team composition, skill of the instructional support teacher, consultation between the IST and referring teacher, use of a problem-solving process, administrative support, and the administration of multidimensional assessments and curriculum-based techniques to identify instructional levels and skill deficits. Some of these practices are similar to those proposed by Kovaleski (2002) to be related to the optimum performance of prereferral intervention teams within schools: principal leadership, staff assignments, program evaluation, training, data collection, and the incorporation of research-based strategies and interventions into a teacher's instructional routine.

Statement of the Problem

The purpose of this study is to examine variables related to IST or other prereferral intervention team processes operating within Pennsylvania elementary schools that have been reported by educational personnel as contributing to positive outcomes (Bickel et al., 1999). The independent variables of interest are (1) the skills and experience of the instructional support teacher or prereferral intervention coordinator, (2) administrative support, (3) training related to the prereferral intervention process, and (4) the practice of systematic data collection. The level of implementation of the prereferral intervention process is a mediating variable. The dependent variable is the

SLD incidence rate, which is the percentage of students within the school district identified in need of special education due to a specific learning disability.

This investigator participated in the initial IST trainings and has witnessed several changes in a small, rural school's prereferral intervention team process since the removal of the IST mandate. With the passage of time and replacement of key personnel that originally received the IST training, newly appointed IST members often express frustration in their inability to access training and networking opportunities that were available when IST was being phased into elementary schools. As the school district faced new burdens, financial and personnel resources were relegated away from the IST. It is conceivable that many other districts are contending with similar dilemmas. However, research is limited as to the effectiveness of the screening or prereferral process that is in place in schools across the State of Pennsylvania since the removal of the IST mandate.

Researchers have advised that states should provide more guidance as to the intent of the prereferral intervention process, recommendations for team membership, and on-going professional development to train participants in how to implement specific, evidence-based interventions (Truscott et al., 2005). With the removal of the IST mandate, the possibility exists that significant variability exists between how each school district chooses to employ a screening process and to operate their prereferral intervention process. This research should provide current information on the types of prereferral intervention teams in operation throughout the state. By looking at the variables related to the expertise of the individual coordinating the prereferral intervention program, amount of administrative support, training availability, and data

collection, a contribution may be made in identifying those variables that produce positive school-wide and student outcomes.

Research Questions and Hypotheses

Research Question 1. Are instructional support teachers more likely to perform those duties that were required of instructional support teachers during the initial phase-in training period than prereferral intervention coordinators who may not be expected to complete all the responsibilities that had been required of the instructional support teacher due to other responsibilities?

Hypothesis: Elementary schools that continue to employ an instructional support teacher will display higher level of implementation of the prereferral intervention process than schools that no longer employ an instructional support teacher.

Research Question 2. Are school districts that continue to staff instructional support teacher positions identifying fewer students with specific learning disabilities?

Hypothesis: Elementary schools that continue to employ an instructional support will be less likely to identify students in need of learning support services due to a specific learning disability.

Research Question 3. To what extent does teaching experience of the instructional support teacher affect level of implementation of the prereferral intervention process?

Hypothesis: There will be a positive relationship between teaching experience of the instructional support teacher and level of implementation of the prereferral intervention process.

Research Question 4. Is there a relationship between the number of years that an instructional support teacher has taught and the SLD incidence rate?

Hypothesis: There will be an inverse relationship between teaching experience of the instructional support teacher and the SLD incidence rate.

Research Question 5. To what extent does teaching experience of the prereferral intervention coordinator affect level of implementation of the prereferral intervention process?

Hypothesis: There will be a positive relationship between teaching experience of the prereferral intervention coordinator and level of implementation of the prereferral intervention process.

Research Question 6. Is there a relationship between the number of years that a prereferral intervention coordinator has taught and the SLD incidence rate?

Hypothesis: There will be an inverse relationship between teaching experience of the prereferral intervention coordinator and the SLD incidence rate.

Research Question 7. Will administrative support (as defined by a low ratio of students to the instructional support teacher/prereferral intervention coordinator, policies and procedures requiring referrals to an instructional support team/prereferral intervention process before making multidisciplinary referrals, regular participation of the principal in instructional support team/prereferral intervention meetings, and schedules times to conduct instructional support team/prereferral intervention meetings during teacher contracted hours) result in higher levels of implementation of the prereferral intervention process?

Hypothesis: Elementary schools that maintain a low ratio of students to the instructional support teacher/prereferral intervention coordinator, create policies and procedures requiring referrals to an instructional support team/prereferral intervention process before making multidisciplinary evaluation referrals, regularly attend instructional support team/prereferral intervention meetings, and schedule times to conduct instructional support team/prereferral intervention meetings during teacher contracted hours will have higher levels of implementation of the prereferral intervention process.

Research Question 8. Will administrative support (as defined by a low ratio of students to the instructional support teacher/prereferral intervention coordinator, policies and procedures requiring referrals to an instructional support team/prereferral intervention process before making multidisciplinary referrals, regular participation of the principal in instructional support team/prereferral intervention meetings, and schedules times to conduct instructional support team/prereferral intervention meetings during teacher contracted hours) result in a lower SLD incidence rate?

Hypothesis: Elementary schools that maintain a low ratio of students to the instructional support teacher/prereferral intervention coordinator, create policies and procedures requiring referrals to an instructional support team/prereferral intervention process before making multidisciplinary evaluation referrals, regularly attend instructional support team/prereferral intervention meetings, and schedule times to conduct instructional support team/prereferral intervention meetings during teacher contracted hours will have a lower SLD incidence rate.

Research Question 9. Are there higher levels of intervention of the prereferral intervention process when instructional support teachers/prereferral intervention coordinators have had access to increased training opportunities related to the prereferral intervention process?

Hypothesis: There will be a positive relationship between the number of training opportunities related to the prereferral intervention process and the level of implementation of the prereferral intervention process.

Research Question 10. Are there lower SLD incidence rates in those schools that have instructional support teachers/prereferral intervention coordinators that have had more training opportunities?

Hypothesis: There will be an inverse relationship between more training opportunities and the SLD incidence rate.

Research Question 11. Are scores of level of implementation of the prereferral intervention process higher in those schools that practice systematic data collection for decision making?

Hypothesis: There will be a positive relationship between the practice of systematic data collection for decision making and the level of implementation of the prereferral intervention process.

Research Question 12. Is the SLD incidence rate lower in those schools that practice systematic data collection?

Hypothesis: There will be an inverse relationship between the practice of systematic data collection and the SLD incidence rate.

Research Question 13. Do schools with higher levels of implementation of the prereferral intervention process have a lower SLD incidence rate?

Hypothesis**:** There will be an inverse relationship between the level of implementation of the prereferral process and the SLD incidence rate.

Problem Significance

There are ever increasing demands on schools today to meet the physical, academic, social, and emotional needs of a wide variety of students. Children facing significant challenges who once were served through other institutions have become the responsibility of the public schools. As a result, the cost of providing special education services has become a large portion of the local education budget. In addition, through legislation such as the No Child Left Behind Act (2002), schools are being held accountable for the academic progress of all its students. To meet the goal that all students will reach proficiency level by the year 2014, many schools are beginning to recognize that they can no longer wait to provide support to students by waiting for them to fail. To improve academic competence and resilience among future generations of children, schools need to begin to develop early intervention and prevention programs (Shapiro, 2000).

With rising special education costs, many schools have introduced alternative methods for meeting the needs of these students such as through instructional support teams, teacher assistance teams, mainstream assistance or prereferral intervention teams. More research is required to determine what variables influence positive or negative outcomes of these alternatives to special education. Through this process, schools will be

better equipped to provide the necessary training for their staff and to direct financial and personnel resources toward research-based solutions.

Definitions of Terms

The following are a list of terms mentioned throughout this study. Definitions provided will contribute to the comprehension of the literature review, as well as the interpretation of research methods and results.

Curriculum-Based Measurements (CBM): These are brief assessments, typically lasting from 1 to 5 minutes that are used to measure progress in acquiring basic academic skills in math, reading, writing, and/or spelling. The child's score can be graphed to provide teachers with a quick visual check of how the student is performing compared to expectations of performance. Curriculum-based measurements have been used by teachers as a screening tool to identify student who may be at risk for not being able to reach fluency in basic skill areas. With frequent administration of CBM, teachers can monitor progress to evaluate the effectiveness of an intervention (Shinn, 2002).

Instructional Support Teacher. As part of the Instructional Support initiative, each elementary school that was participating in the five-year phase-in period was expected to employ a support teacher who had specific responsibilities related to the prereferral process. This teacher was trained to assist in the screening of students suspected to be eligible for special education through participation in the IST. The instructional support teacher coordinated the IST process within their building, conducted curriculum-based assessments, collected data, scheduled meetings, assisted the referring teacher with suggested classroom modifications and accommodations, and frequently

provided direct instructional services to determine instructional level and to appraise whether interventions provided through the general education program could adequately meet a student's academic/behavioral needs without a special education placement. Although the regulations refer to this staff person as a support teacher, to avoid confusion with other support teacher roles within the elementary school, the title instructional support teacher is chosen for this study.

Instructional Support Team (IST). IST was a state-mandated school-based group that included the building principal, the student's teacher(s), the instructional support teacher, and other professionals, such as elementary counselors, school psychologists, or special education teachers who could provide consultative assistance. The purpose of the team was to provide support to general education teachers using a problem-solving model so that interventions could be introduced into the regular education classroom before a referral was made for special education services. Students were systematically screened and monitored using assessment and instructional techniques (Conway & Kovaleski, 1998).

IST Initiative: A statewide training project designed to assist in the implementation of Instructional Support Teams that was in operation from 1990 – 1997.

Intermediate Units. Twenty-nine educational agencies spread geographically across the State of Pennsylvania that assist with technical assistance, staff development, and special education programs and services to local school districts.

Penn Data: A system by which local school districts report to the Pennsylvania Department of Education those students deemed eligible for special education. The

report includes detailed information relating to programs and services to provide a child count.

Prereferral Intervention. An intervention developed to accommodate students having academic or behavioral difficulties within their regular education classroom without special education services. However, special education students could also be referred if the intervention did not relate to those areas expected to be addressed through their Individual Education Plans (IEPs).

Assumptions

Since this study is designed to collect information primarily through a survey method, one assumption is that the individuals answering the questions are knowledgeable about how the IST process operates within the reported school. Secondly, the survey method relies heavily upon the accuracy of the respondent, so that answers do not become overly tainted by the need to be viewed in a positive light rather than dealing with those issues related to flaws in the intervention process. A third assumption related to the method of gathering data is that the different respondents are interpreting the questions in similar ways.

Limitations

This study relied primarily upon a survey method for collecting information; therefore, the percentage rate of surveys returned had a major impact upon what can be learned from this study. The possibility exists that those school districts that have

experienced greater success in their prereferral efforts may have been more interested in participating in the study.

Summary

This chapter provided information on the IST mandate that required that an IST process be established in each Pennsylvania school district. Since 1997, when this mandate was removed and school districts were permitted to continue using the IST process or to implement another prereferral intervention method, studies regarding what components of the IST process have been continued have been limited. The purpose of this study was to examine variables related to IST or other prereferral intervention team processes operating within Pennsylvania elementary schools following the removal of the IST mandate.

Thirteen hypotheses were proposed to study the relationships between four independent variables, a hypothesized mediating variable, and the dependent variable. Six hypotheses proposed that a positive relationship between the independent variables and LOI of the prereferral intervention process. Six hypotheses proposed an inverse relationship between the independent variables and the SLD incidence rate. A final hypothesis proposed an inverse relationship between level of implementation of the prereferral intervention process and the SLD incidence rate.

CHAPTER II

LITERATURE REVIEW

This chapter begins with an explanation of the instructional support team (IST) prereferral process, which began as a state-mandated program in Pennsylvania in 1990. Major components of the IST process are discussed including a description of the different screening levels, the role played by the instructional support teacher and building principal, IST trainings, assessment and data collection, and the IST validation procedure.

The literature review continues with a discussion of quantitative and qualitative studies which investigated the effectiveness of the IST process. Since this study investigates the continued operation of IST programs in Pennsylvania, information is reported from a survey that was conducted following the removal of the IST state mandate.

To better understand those independent variables that have been proposed to be associated with an effective prereferral intervention process, the review ends with studies related to the skills of the instructional support teacher, administrative support, data collection, and training, and how these variables are related to implementation of IST or prereferral intervention programs and the reduction in special education placement rates.

The Pennsylvania Initiative: Instructional Support Teams

In response to the rising costs of special education services in Pennsylvania, the Instructional Support Team (IST) initiative was introduced in 1990. Pennsylvania State legislators agreed to cover the deficit in the State's education budget, if the State Board of

Education agreed to alter the special education program delivery of services, particularly in relation to the escalation of mildly handicapped children who require special education services (Hartman & Fay, 1996). The IST initiative emphasized prereferral interventions in which the regular education classroom teacher adjusted or modified instruction or behavior management in the general education classroom before a request was made for a formal evaluation for special education services (Kovaleski, Tucker, & Stevens, 1996). Prereferral interventions were intended to decrease the dependence regular education teachers had developed based on a belief that only special education teachers can meet the needs of the difficult-to-teach student (Fuchs & Fuchs, 1988). Zins, Heron & Goddard (1999) had indicated that through prereferral interventions, early intervention and treatment of academic or behavior problems to all students within the school can occur without the need for a stigmatizing label.

The IST initiative became a mandated program with the enactment of the new Chapter 14 regulations in July 1990 (Kovaleski, Tucker, & Duffy, 1995). Regulations required a 5-year phase-in period in which training and on-going assistance would be provided to selected personnel so that by July 1995 each of the 501 school districts across the state would have at least one IST in operation within one of its elementary schools (Kovaleski, Gickling, Morrow, & Swank, 1999). In Phase I (1990-91 school year), 105 school districts began the process followed by 98 school districts in the Phase II (1991-92 school year), 109 school districts in the Phase III (1992-93 school year), 84 school districts in the Phase IV (1993-94 school year), and 104 school districts in the Phase V (1994-95 school year). By the end of the fifth phase, 45 % of the public elementary

schools in Pennsylvania had received training in the IST process (Kovaleski & Glew, 2006).

The Instructional Support Team Process

The IST prereferral process mandated that elementary students be systematically screened before being referred for a multidisciplinary evaluation. The IST process consisted of a group problem-solving approach, which involved a systematic search for determining a referred student's academic, social-emotional, behavioral, and/or communication needs, in order to assist regular education teachers and students. Through this prereferral process, the IST helped regular education teachers plan and implement instructional or behavioral interventions by providing consultation, technical assistance, and/or training. The instructional support teacher worked with the regular education teacher or parent in trying to identify the areas of concern based upon information gathered through different types of assessments. The IST, which included the participation of the referring teacher and/or parent or guardian, established measurable goals. Progress toward these goals was monitored through on-going assessments, which provided information as to the success of the intervention (Kovaleski & Rodriguez-Diaz, 1993).

According to guidelines set forth in the Pennsylvania State Board of Education Regulations, Chapter 14 and the Pennsylvania Department of Education Standards, Chapter 342 (PA Dept. of Education, 1990), the IST process began with a student referral. Students could be referred to the IST by a school staff member, parent or guardian, or by results obtained through a Level I or Level II screening. The Level I screening involved the review of previous educational history, medical history, report

card grades, attendance records, and other school records to determine whether poor performance warranted a referral for instructional support. The Level II screening included vision, hearing, motor, and speech and language screenings, which was a requirement stated in Special Education regulations and standards. Students were considered for an IST referral if these problems could not be resolved by a medical referral. The Level III screening was the IST process.

The Level III screening was a 60-day procedure, which consisted of four phases: (1) Entry Phase, (2) Hypothesis Forming Phase, (3) Verifying Phase, and (4) Outcome Phase. The first 10 school days following the receipt of the referral was known as the Entry Phase. The IST reviewed the referral, the building principal documented the referral, and then the principal or designee notified the parents of this review. The instructional support teacher conducted interviews with the teacher and parents, observed the student in those settings in which the student was having difficulty, reviewed work samples, and conducted academic assessments such as curriculum-based assessments (Gickling & Havertape, 1981; Gickling & Thompson, 1985).

Within the next 10 school days, the IST entered the Hypothesis Forming Phase, which focused upon identifying the problem, determining the gap between the student's current performance and expectations, setting measurable goals, and designing intervention strategies to improve acquisition and retention rates. The team made recommendations for regular education classroom adaptations in instruction or classroom assessment.

The Verifying Phase was the longest part of the IST process, which was to last a maximum of 30 school days. The emphasis was placed upon trying to improve student

understanding in the classroom, changing classroom management procedures, increasing academic engaged time, and applying principles of learning. In the case of academic difficulties, students were taught at their instructional level throughout this intervention phase. If the need existed to adapt instructional materials or classroom tests, this intervention was provided at this time. For behavior concerns, instruction was provided on how to address inappropriate behaviors through the use of positive approaches to decrease or eliminate their occurrence (Valentine, 1988). Another type of an intervention involved teaching the referred student coping skills. Through demonstration, guided practice opportunity, graphing student progress, and increasing feedback, student progress was expected to be closely monitored. These tasks were carried out by the instructional support teacher or other team member. The team decided whether the need existed to adjust any strategies. At this stage, the instructional support teacher began to fade the amount of support given to the individual student and to work toward identifying regular education services to assist the referred student.

In the final Outcome Phase, which lasted 10 days, the IST reviewed data to determine the effectiveness of the intervention. Data included looking at the student's classroom performance before and after the intervention, noting gaps of performance between the referred student and minimal classroom expectation, and reviewing rate of acquisition and retention. To help the team decide whether a referral should be made for a multidisciplinary evaluation, questions were raised as to whether or not the student could be maintained in the regular education classroom without an excessive extension of personnel, time, and resources. If the IST decided a multidisciplinary evaluation should

be pursued, the referral was expected to be completed within 10 days of the end of the intervention period.

Role of the Instructional Support Teacher

The IST process was facilitated by an instructional support teacher, who received specialized training in those areas related to the prereferral intervention process. Each school district was mandated to hire an instructional support teacher whose sole responsibility was to focus upon the prereferral process operating at the school. Some districts were permitted to distribute the responsibilities between other staff members if they could demonstrate that the cumulative time spent on IST tasks equaled a full-time equivalent (Kovaleski, 1995). A considerable amount of the instructional support teacher's time was spent in the classroom modeling strategies for the regular education teacher and assessing the referred student. The instructional support teacher was not to be viewed as an expert consultant, tutor, or teacher aide (Kovaleski, Lowery, & Gickling, 1995).

When an IST referral was received, the instructional support teacher began collecting information, conducting observations of the student, as well as completing assessments to determine the student's instructional level. The instructional support teacher worked toward fading out all direct involvement with the child by having the regular education teacher or other regular education staff member take over the intervention.

During the initial phases of implementing the IST program in the elementary school, the instructional support teacher was expected to participate in all training sessions, and then to share pertinent information about the IST process with the building

faculty. School districts were allowed to split instructional support duties among more than one staff member as long as the district could document that those individuals were able to adequately carry out the prereferral intervention duties. Supervision of the instructional support teacher was assigned to the building principal.

Role of the Building Principal in the IST Process

The school principal or designee scheduled and convened IST meetings, coordinated the duties of IST members, created time within the staff schedule to allow for assessment and intervention, made certain that parents and guardians were contacted about the IST referral, maintained a principal's log documenting the progress of students participating in the IST process, and arranged for team maintenance sessions. At the principal's request, the instructional support teacher could take on the role of notifying parents, scheduling IST meetings, and maintaining records, but was not permitted to act as the principal's designee in determining the direction or participation in the IST process.

IST Training

An important component of the IST initiative was the training and technical assistance that was provided to the school district by the Department of Education Instructional Support Team Project and Student Assistance Program (SAP) staff during their first year of implementing the IST process in an elementary school building. The local intermediate units became involved by providing follow-up training and support through the Statewide Support Initiative of the intermediate units. In addition to formal training workshops, the instructional support teachers engaged in guided practice activities on-site, networked with other instructional support teachers or teams, or were

given assistance when the schools were ready to offer training for other members of their staff within the local schools.

Workshops were conducted that focused upon those duties unique to certain team members. For instance, the principals were strongly encouraged to participate in the Principal Training Model, which covered each component of the IST process, as well as overall leadership and paradigm-change issues (Kovaleski, 1993). Instructional support teachers attended specialized training in each of the IST components: (1) collaborative/team building; (2) instructional assessment, (3) instructional adaptation, (4) effective interaction patterns, and (5) elementary student assistance. The focus of the training was to provide skills that the instructional support teacher could share with regular education teachers to improve the academic or behavioral functioning of the child in the regular education setting.

Collaboration/team building training emphasized a problem-solving model that promoted student assessment, problem identification, goal setting, brainstorming solutions, planning interventions, implementing interventions, and evaluation/design (Rosenfield, 1987). Emphasis was placed on the importance of building effective listening and communication skills. Given the team approach to problem solving, IST training participants were guided through the process of team building and maintenance.

Instructional assessment training involved instruction in the use of Curriculum-based Assessment for Instructional Design (CBA-ID), a method designed to match the student's skills to the instructional level of the curriculum (Gickling & Rosenfield, 1995; Gickling and Thompson, 1985). According to Gickling and Thompson (1985), students perform better when materials they are working in are at an instructional level, with a

balance created between what is familiar and what is challenging, so that optimum learning can take place, avoiding assignments that would create excessive frustration for the student. The instructional support teacher or other team member assessed whether the referred student was at an independent level (90% known items for drill and 97% known items for reading with meaning), instructional level (between 70 to 85% known items for drill and between 93% - 97% known items for reading with meaning), or frustrational level (less than 70% known items for drill and less than 93% known information for reading fluency) within the curriculum. When teachers know a student's instructional level within curriculum materials, they can recommend instructional modifications, such as determining the instructional level of curriculum materials.

Instructional adaptation training generated ideas for strategies that could be introduced in the regular education classroom. Participants were introduced to the ADAPT (A Developmental Activity Program for Teachers) Manual, which was created through Project ADAPT, which was initiated in the Allegheny Intermediate Unit #3 in Pittsburgh, Pennsylvania (Hauck, Myers, & Wilson, 1989). The manual included information on how to (1) help students read for information and understanding; (2) organize information, understand relationships, categorize information, sequence events, and identify cause and effect through the use of charts, graphs, or pictures; (3) create skeletal outlines to accompany a lecture or text; (4) list important information embedded within text through the creation of a what-you-need-to-know chart; (5) use graphics and advanced organizers; (6) teach students to organize and practice newly learned information in a structured format; (7) get students to practice and review information in a game-type format; and (8) create a hands-on activity to applying,

categorizing, and relating information through the use of pocket charts or study cards. Instructional adaptation training also included information on how to adapt traditional classroom assessments and to provide alternative grading procedures.

The family systems approach (Valentine, 1988) was the method selected to improve behavior problems by improving the communication and interaction patterns occurring between parents, students, and educators. Teachers and parents worked together to identify what their role would be and how the student was expected to respond to the teachers and parents. Interventions included analyzing classroom communication, training teachers to send clear messages to students, and instituting supportive back-up strategies that would be the least intrusive or restrictive. Interventions often involved the participation of counselors or school psychologists. Interventions and behaviors would continue to be monitored and evaluated until the student started to demonstrate the desired behavior.

The last training component dealt with developing an awareness among team members on how poor self-concept, inability to identify or communicate feelings, ineffective social skills, and poor decision-making skills can result in poor academic functioning and undesirable classroom behaviors. The concepts taught in this training were developed from the secondary level Student Assistance Program philosophy. Strategies were introduced on how to improve children's coping skills as they had to deal with life stressors or crises. Information was provided to team members on the different types of classroom strategies and community-based support networks to assist the at-risk student.

Assessment and Data Collection

IST assessments included an analysis of student performance in the regular education curriculum, an assessment of classroom behavior, and an examination of the referred student's life stressors and coping skills. Throughout the 50-day intervention period, the student's response to the IST intervention was monitored. Academic assessments frequently included curriculum-based assessment to identify the instructional level of the student and appropriate curriculum materials. Systematic classroom observations and interviews with the parents, teachers, and other individuals working with the student provided the team with sufficient information to formulate an intervention. Student's rates of acquisition and retention of the desired change in academic and/or behavioral areas, combined with availability of personnel and the amount of needed curricular adaptations in order for the student to be successful, helped the team determine whether or not the student should be referred for a multidisciplinary evaluation.

Each elementary school IST was mandated to maintain a principal's log that included the name of the student referred to the IST team, date of initiation of the IST process, name and position of the person making the IST referral, date and nature of action to be taken as a result of the IST process, and date of parent contact. The principal's log was used to keep track of data to help the Pennsylvania Department of Education evaluate the effectiveness of the IST program. Schools were instructed to record the numbers of students served by IST, the numbers of students referred for

multidisciplinary evaluations, the numbers of students placed in special education, and the numbers of students retained in grade.

IST Validation

Each school with an IST program participated in a validation process at the end of the instructional support team's second year of operation. A validation team reviewed IST records, interviewed staff and parents, and conducted observations to determine whether or not the minimum requirements for an IST process were being implemented in the school (Kovaleski & Rodriguez-Diaz, 1993):

- The employment of an instructional support teacher
- The operation of a screening and evaluation team process, which included the principal or designee, the instructional support teacher, and the student's teacher
- The maintenance of minimal data of the IST operation
- Participation in state-sponsored trainings
- Principal participation in the IST orientation and subsequent PDE trainings related to the IST process
- Instructional support teacher participation in orientation and mandated PDE trainings combined with guided practice sessions with the IST consultant
- Coordination by the school district of in-district training with IST consultant participation
- Assessment of the referred student's identified problem and instructional level using curriculum-based assessment techniques
- School documentation of retentions in grade, referrals for MDEs, placements in special education, and numbers of students served by the IST

The IST process was viewed as a screening process to determine which students should be referred on for a multidisciplinary evaluation, and therefore was subject to monitoring by the Bureau of Special Education. Principals of schools that did not receive validation upon their initial review were expected to contact the Intermediate Unit Statewide Support Initiative personnel to discover what corrective action was needed.

Evaluations on the Effectiveness of ISTs

Cost-Effectiveness of Instructional Support Teams in Pennsylvania

Hartman and Fay (1996) studied the cost effectiveness of the prereferral IST process in Pennsylvania during the 1992-93 and 1993-94 school years. In this study, those 1,074 schools participating in Phases I through IV of IST implementation were compared to those schools employing a more traditional approach of obtaining services for students with learning problems, which involved referring students with learning problems directly for a multidisciplinary evaluation (MDE). The costs and effectiveness of the traditional approach was based upon data from the Phase IV and Phase V schools before the IST program was implemented in these schools. Costs associated with these two programs were primarily calculated according to personnel costs required to run the two programs. The long-term cost associated with servicing students in special education programs was estimated to be twice the cost of servicing regular education students.

The effectiveness of the two programs was measured according to effectiveness measures taken from the Instructional Support Team Projects data files (Kovaleski, McKinley, & McCloskey, 1995), which collected information on the numbers of IST referrals, the number of psychological evaluations, the number of students placed in

special education programs, and the number of same year retentions. In the IST schools, the average referral rate for instructional support assistance was 39 students out of 500, or 8 % of students in IST schools; whereas, the more traditional schools that relied upon multidisciplinary evaluations to obtain services for students with learning difficulties averaged a 3 % referral rate for multidisciplinary evaluations, which was interpreted by the researchers to mean that the IST approach provided services to more students having learning difficulties within a school.

One of the factors utilized to determine the success of an IST program is the percentage of students referred to the IST who are able to continue to remain in their regular education classroom without the need for a multidisciplinary evaluation or special education services. On the average 85 % of students serviced through the IST program did not need to be referred on for a multidisciplinary evaluation because the team determined that their needs could be adequately met in the regular education classroom.

Of those 15 % of students referred for MDE, only 54 % were placed. This result was unexpected given that the IST referred the student on because they believed those student's needs were not being met in the regular education classroom with the IST interventions. However, this placement was higher than the traditional approach which placed only 37 % in special education programs after a MDE referral. Approximately two-thirds of those students who did not qualify remained in the regular education classroom without any further instructional assistance.

In addition to the above, student retentions in grade declined in the first three years before the retention rates stabilized. This trend was estimated to result in a cost savings equal to the average cost of educating a regular education student each year

multiplied by the number of students that might have been retained without the extra instructional assistance in the regular education classroom.

Hartman and Fay (1996) reported that the IST approach was estimated to cost $38,000 more during the first year of program operation than the more traditional approach; but over the long term, they predicted that the IST approach could end up costing less than the traditional approach if students placed in special education remained there for at least five years. Hartman and Fay concluded that the IST program was more effective than the traditional approach because the IST method resulted in reduced numbers of students being placed in special education combined with providing more services to students have learning difficulties in the regular education classroom.

Effects on Student Performance Measures

Pennsylvania schools that implemented an IST process averaged special education referral rates of less than one-third to one-half of those schools that did not have an IST (Kovaleski et al., 1996). In an unpublished manuscript, Statewide Implementation of IST: Results of Pennsylvania Initiative, 85% of 47,000 students that participated in an IST intervention were not referred for special education services (Hartman & Fay, 1996). However, data on the decreases in special education referrals or the declines in grade level retentions provide little information about the academic success of those referred IST students who remained in the regular education program.

Kovaleski, Gickling, Morrow, and Swank (1999) compared the academic performance of students participating in the IST process to students from schools that did not have the prereferral IST program by investigating the relationship between academic learning time (ALT) and level of implementation of the IST process. Academic learning

time was defined as the amount of time a student spends on an academic task that has an appropriate level of difficulty. Level of implementation of the IST process for this study was quantified according to data that was collected during the IST validation process. The sample included a total of 492 randomly-selected students from IST schools that were in Phase I or Phase II of IST implementation. Students from these IST schools were compared to 237 randomly-selected students from non-IST schools that were determined by staff to be academically at risk. In order to develop a standard to measure student performance, and to create a situation in which the observers were not informed as to which students being observed were having academically difficulty, each student predetermined to be at risk was matched up against one or two other students in the classroom who were classified as average students. This comparative group totaled 1,189 students. The ALT data included scores measuring student's time-on-task, task completion, and task comprehension. This data were collected on three separate occasions, a pretest upon the initial identification of the subject, a 45-day posttest, and an 80-day follow-up. The determination of the degree of implementation of the IST approach was based upon the rating received by the school during the validation process that was scheduled at the end of the school's second year of IST implementation. These researchers discovered that students enrolled in schools that were recognized as high implementers of the IST process performed better over time on measures of time-on-task, task completion, and comprehension. Students from Phase I and II schools with high implementation ratings made significantly higher gains in comprehension than Phase I or II schools and non-IST schools from posttest to follow-up. Students from Phase I and II schools with low implementation ratings did not earn comprehension scores that were

statistically different from non-IST schools from pretest to posttest to follow-up. A comparison of comprehension scores of schools with a low implementation rate showed a decline in scores from the 45-day posttest to the 80-day follow-up.

Documentation and Impact of Pennsylvania's Instructional Support Team Process

Although there have been many doctoral studies that have investigated some of the variables related to IST (Acklin, 1993; Dambach, 1994; Kauffman, 2002; Lake-Dell, 1994; Tracy, 1997), the number of IST studies published in peer-reviewed journals is limited. One of the complaints that have been lodged against prereferral intervention research in general is that the research has not identified many quality indicators related to the prereferral intervention process. The following qualitative study was commissioned by the Pennsylvania Bureau of Special Education to study the impact of the IST initiative (Bickel, Zigmond, & McCall, 1998), which was eventually followed up with another qualitative study to investigate possible factors that educators hypothesized was related to IST best practices (Bickel, Zigmond, McCall, & McNelis, 1999).

The Bickel et al. study (1998) utilized a survey method that questioned whether principals, teachers, special education personnel, or state level administrators believed that the original goals of IST interventions had been met within their school, district, or region: (1) a continuum of services in each school building, (2) collegial support to teachers working with difficult students, (3) a method of screening students who may be eligible for special education, and (4) assistance for regular education teachers providing instruction for IEP students who were having academic or behavior problems. In addition to investigating whether the IST initiative met its original goals and whether special

education enrollments had changed in Pennsylvania since the implementation of IST, Bickel and colleagues looked at which factors were believed to be most influential in the successful implementation of an IST intervention. Seven factors emerged: (1) skills and disposition of the instructional support teachers in each building; (2) the fidelity of implementation of IST procedures and strategies; (3) collaboration and commitment among the staff; (4) support from parents; (5) use of strategies tailored to the individual student; (6) training in the IST process; and (7) ongoing support for IST personnel and processes. In particular, many respondents believed that the IST in their schools was more effective if the principal participated regularly at IST meetings, if the school had a full-time instructional support teacher, and if there was continued support from state and regional trainers. However, these beliefs were based upon opinions and have not been subjected to systematic research.

The majority of respondents to the Bickel et al. (1998) survey believed that an IST intervention provided services to students experiencing difficulty in their regular education classroom, and that by providing services early, often the need for a special education referral or placement was removed. Although many of those surveyed saw the IST process as a gate-keeping function, others saw an IST intervention as a way of giving extra support to those students who might not qualify for special education.

By examining data from Annual Statistical Summaries from 1985-1990 (before IST) to 1991-1996 (during IST implementation phases), the researchers reported an associative relationship between special education placement rates and IST. There was a slowing of learning disability (LD) classifications until 1996 when there was acceleration. There was a decline in the mental retardation (MR) category, with a

reversal trend in the identification of social emotional disturbances (SED) (Bickel et al., 1998). Despite these results and the positive testimonials, the IST mandate was removed in 1997, approximately two years after the fifth and final phase in which the remaining school districts completed their training.

In the following year, a study was conducted to determine which districts were planning to continue their IST programs, despite the removal of the state mandate (Bickel, Zigmond, McCall, & McNelis, 1999). The investigators sent out questionnaires to 500 school districts, which were returned by 406 school districts for a return rate of 81.2%. Eighty-nine percent of the 406 districts (361 school districts) planned to continue to utilize the IST that was currently in place at their elementary school. Six percent of the districts were undecided, but were considering modifying the IST process to suit their needs. Four percent were electing to discontinue the IST process because it failed to live up to their expectations. Some of the districts eliminating ISTs were electing to incorporate their prereferral intervention into pre-existing support services. These researchers questioned whether the high numbers of districts choosing to continue with the IST process were doing so because there had not been sufficient time to investigate alternative programs and that school budgets may have already been in place. Over five years have passed since this data was reported. This researcher has not been able to locate more current information on the prereferral intervention practices in Pennsylvania.

Current Prereferral Intervention Practices in Pennsylvania

Once the IST mandate was removed, individual school districts were permitted to decide which process would operate within their schools to fulfill the screening

requirement of Chapter 14 of the Pennsylvania Department of Education regulations (2001). Specific requirements that were expected to be in place in all school districts included the collection of curriculum-based or performance-based assessments for students with academic difficulties, systematic observations of students with behavior problems, and a data-based intervention to address the skill deficits discovered through the assessment process. In addition, data collection on the student's response to the intervention was required to assist educators in making a determination as to whether the student's needs could be adequately met in the regular education classroom (PA Dept. of Education, 2001). This screening requirement retained many of the elements considered to reflect effective implementation of an IST intervention. However, the latitude provided to individual school districts may have resulted in significant variability not only between school districts, but also within school districts.

According to nationwide surveys, the prereferral intervention process can vary significantly across states and school districts in terms of their terminology, size of the team, types of problems addressed by the teams, variation in ownership of the process, and level of involvement in implementing interventions (Buck, et al., 2003; Carter & Sugai, 1989; Truscott, Cohen, Sams, Sanborn, & Frank, 2005). However, states are not always clear about the goals of their prereferral intervention process and do not provide sufficient guidance about how their prereferral intervention team process should operate in their schools (McNamara & Hollinger, 2003).

Variables Proposed to be related to the Effectiveness of Prereferral Intervention Teams

As part of a final report of the Instructional Support Team Best Practices in Pennsylvania (1999), qualitative information was presented on those variables the survey respondents believed were related to the effectiveness of the IST process. Some of those variables discussed included (1) principal's support for IST prior to its implementation; (2) training opportunities provided to team members prior to implementation and during the implementation phase; and (3) the utilization of assessment data to determine astudent's instructional level and to help design an intervention plan to address those weaknesses revealed through the assessment process. Other building level procedures thought to affect the success of the prereferral intervention process were the presence of a full-time instructional support teacher to coordinate the IST activities and the use of progress monitoring to determine whether students should be referred on for a multidisciplinary evaluation.

The Instructional Support Teacher

According to Bickel et al. (1999), there are educators who participated in the IST program in Pennsylvania who believe that the employment of full-time instructional support teachers who are able to devote their attention on IST duties and activities contributes to the effectiveness of the IST process. However, they advocate that the instructional support teachers should be skilled and respected by the school staff. The skilled instructional support teachers should be able to work well with all individuals involved in the IST process, be knowledgeable about students and their problems, and have sufficient expertise to provide staff development training opportunities (Bickel et al., 1999). No empirical studies were found to support these beliefs.

When IST was mandated, school districts were permitted to divide the responsibilities of the instructional support teacher among different staff members provided that their combined times in meeting the responsibilities of an instructional support teacher was the equivalent of a full-time position. This practice was not encouraged given the varying responsibilities assigned to the instructional support teacher: conducting instructional assessments and classroom observations, meeting with teachers to collaborate, teaching individual students to develop and practice classroom strategies, modeling and demonstrating instructional techniques for the teacher, facilitating monitoring of interventions through data collection methods, developing behavior management practices, informing staff about the IST process, and identifying internal and external supports (Kovaleski, 1995). Research could not be accessed as to whether there was a difference in the effectiveness of the IST if a full-time equivalent IST teacher was utilized instead of a full-time instructional support teacher.

Administrative Support

Support from the administration and effective leadership is proposed to be related to sustained educational practice (Denton, Vaughn, & Fletcher, 2003). Advocates of prereferral intervention programs believe that appropriate administrative support is required to help schools make the transition from the refer-test-place practice of dealing with the difficult-to-teach student to a prereferral intervention process (Ross, 1995). They believe the building principal plays an important role by allocating the required resources, communicating to the entire school the importance of implementing interventions in the regular education classroom before referring students for special education eligibility testing, and encouraging staff members participating on prereferral

intervention teams to obtain adequate training (Hartman & Fay, 1996). Principals involved in implementing IST programs in their building were expected to assure individuals assigned to the instructional support teacher or prereferral intervention coordinator role that they would not be overburdened with other responsibilities or overloaded with student referrals due to a high ratio between students and the coordinator (Kovaleski, 1995). The effectiveness of the prereferral intervention process can be seriously undermined if prereferral duties are assigned to staff members who already have full workloads (Kovaleski, 2002).

Administrative support involves providing sufficient time for consultation between the referring teachers and prereferral intervention teams members because insufficient time to meet is a frequently cited criticism of intervention assistance programs (Ross, 1995). Without administrative support, school-wide implementation of prereferral intervention programs may not meet their established goals (Sindelar et al., 1992), especially during those periods of increasing task demands and limited resources (Moore-Brown, Montgomery, Bielinski, & Shubin, 2005).

Kruger and Struzziero (1995) investigated the relationship between organizational support and satisfaction with teacher assistance teams. Twenty-eight Massachusetts public schools with teacher assistance teams (TAT) made up the sample. The researchers discovered a strong relationship existed between administrative support and teacher assistance team satisfaction. A statistically significant relationship occurred between providing release time for TAT meetings and TAT member satisfaction and consumer satisfaction with the TAT process. The authors stated that further research was necessary to look at factors such as the extent to which administrative support

requirements were related to the number of years that the TAT (or prereferral intervention team) was in operation in the school.

Training Related to the Prereferral Process

As Fuchs and Fuchs (1988) learned through their research, many prereferral interventions are ineffective because referring teachers have not had the knowledge or background in creating and implementing interventions. Even when staff development is arranged to expose teachers to new skills, without the opportunity for guided practice or monitoring, the skills are not always practiced. In one study, fewer than 10% attending a training workshop had implemented what they had been taught. A need exists to extend the training beyond developing awareness or basic understanding about a process or the exposure to skills in isolation (Gravois, Knotek, & Babinski, 2002). The addition of on-going coaching in the applied setting improves significantly the transfer of newly taught skills (Chafouleas, Riley-Tillman, & Eckert, 2003).

Prereferral team interventions were proposed as a means to assist classroom teachers in informally assessing learning problems, developing regular education alternatives and solutions to instructional problems, and providing a support system in the classroom through the use of aides or team teaching strategies (Hewitt, 1997). Although many multidisciplinary team members have expressed a preference for using their professional judgment when interpreting academic performance, many team members lack adequate training and competence in this method of determining need (Vaughn et al., 2003).

Kovaleski (2002) has stated that hands-on training in areas such as curriculum-based assessment and behavioral assessment is extremely important in order for

prereferral intervention teams to meet their goals. Training for team members in collaboration and formative and summative evaluation procedures is needed to determine the types of strategies or interventions required and when the intervention should be adjusted (Nelson & Smith, 1991). The belief held by those advocating the prereferral team practice is that without extensive training in the form of long-term and on-going staff development, combined with technical assistance and adequate resources, the practice is found to be lacking (Safran & Safran, 1996). Further research is necessary to determine whether incorporating training elements such as skill demonstration, feedback, and follow-up support improves the prereferral intervention process (Lane, Pierson, Robertson, & Little, 2004; Flugum & Reschly, 1994).

Systematic Data Collection

Systematic data collection contributes to the effectiveness of prereferral intervention teams (Weishaar, Weishaar, & Budt, 2002) by helping to improve educational decision making through the practice of collecting ongoing assessments to inform and document effectiveness of instruction (Shapiro & Elliot, 1999). With the systematic practice of data collection, the prereferral intervention team is more able to judge whether a student's degree of need for extra support extends beyond what is available in the regular education classroom (Kovaleski, 2002; Flugum & Reschly, 1994).

Although many states have mandated or encouraged prereferral interventions to address the rising costs and the number of students deemed eligible for special education programming, many prereferral team members are unable to make decisions as to the effectiveness of the planned interventions because systematic, research-based data collection has not been conducted (VanDerHeyden, Witt, & Naquin, 2003). In one study

of active prereferral intervention teams, only 25 percent of the schools were collecting baseline data, implementing strategies systematically, and applying objective measures to judge the effectiveness of the intervention (Reschly, 1988).

One frequently studied method of data collection is curriculum-based measurement (CBM). With this type of information, educators are able to judge more objectively which students should be referred for a prereferral intervention and whether interventions introduced to the regular education classroom are sufficient for the student without the need for special education services. Information gained from CBM can help identify at-risk students for possible interventions rather than waiting for these students to fail (Deno, 1986; Shinn, 2002).

The systematic collection of CBMs has been shown to strengthen the prereferral assessment process because the information that is collected documents whether or not the student is profiting from an instructional intervention. CBMs have proven to be a reliable and valid method for measuring academic competence and growth (Elliott & Fuchs, 1997). CBMs can provide information on inter-individual differences by ranking the students within a classroom or grade to see how a student's performance compared to similarly aged students (Fuchs & Fuchs, 2002).

Advances in data collection methods have occurred since the IST trainings ended in Pennsylvania. The Dynamic Indicators of Beginning Emergent Literacy Skills (DIBELS) is one method that was created as a downward extension of curriculum-based measurements in oral reading fluency to help educators identify which students might require an intervention beyond what is typically provided in the general education classroom (Good, Gruba, and Kaminski, 2002).

Researchers have been increasingly advocating the need to identify students at risk for future reading difficulties as early as possible. When students are identified in the younger years as at-risk readers, extra or varied instruction can be offered in these areas to improve those essential learnings related to competent readers. DIBELS does not tell teachers what or how to teach reading. DIBELS is an assessment method that informs the teacher whether reading instruction is adequately addressing essential literacy skills that are linked to later reading competence, such as phonological awareness, alphabetic principle, and improved accuracy and fluency. The DIBELS measures are easy to administer, brief, economical, and can be administered frequently. Through the use of multiple alternate forms, a student's improvement in certain skill areas can easily be assessed to help the teacher or team determine whether or not any changes in instructional delivery are needed. Although DIBELS is frequently used as a reliable and valid indicator of early literacy development (Elliot, Lee, & Tollefson, 2001), there are no empirical studies linking the use of DIBELS to the effectiveness of the prereferral intervention process.

To provide interventions for students referred for behavior problems, some schools conduct functional behavior assessments (FBA). Functional behavior assessments are conceptualized as a method of identifying the antecedents, behaviors, and consequences to help understand the reason behind a student's challenging behaviors. Functional behavior assessments may involve an indirect way of gathering information such as what is obtained through a functional assessment interview, records review related to the behavior, or the completion of behavioral rating scales or checklists. If a more direct method is desired, then systematic observations may be conducted to

measure the frequency, duration, latency, and intensity of the behavior (Gresham, Watson, & Skinner, 2001). The FBA is based on the precept that challenging or counterproductive behaviors are learned and that they continue to occur because a previous unmet need for the student starts being met (Frey & Wilhite, 2005).

Functional behavior assessments traditionally were handled by the school psychologist or special education teacher; however, some schools have opted for a collaborative model using school based teams. These teams decide what information should be gathered, who will be responsible for collecting this information, what the deadlines should be for collecting the information, and then schedule follow-up meetings to discuss possible interventions or need for future assessment (Scott, Nelson, & Zabala, 2003). However, in order for these teams to be successful in carrying out FBA, they require strong administrative and collegial support to garner the cooperation needed to conduct assessments and to plan and implement interventions or behavior support plans that match what is learned through the assessments (Newcomer & Lewis, 2004). Training in FBA may improve the team's data driven decision-making so that behavior interventions chosen are based upon the function of the behavior (Lee & Jamison, 2002). Empirical research is lacking on whether completions of functional behavior assessments by prereferral intervention teams to address students with behavior problems is linked to the successful maintenance of the referred student in the regular education classroom

In addition to collecting data to answer questions about how the individual student performs, a different type of data collection that focuses on variables related to the prereferral intervention process itself could assist states and school districts in determining whether their prereferral intervention teams have produced desired outcomes

(Nelson & Smith, 1991). Schools could collect data on the number of students served through the prereferral intervention team process, the number of students referred for special education evaluations, and the number of student retentions. However, since prereferral intervention teams are not mandated by all states (Buck et al., Truscott et al., 2005), the states and school districts with prereferral intervention teams are not required, and therefore, do not always evaluate their team effectiveness or try to identify what practices bring about desired outcomes.

Level of Implementation of the Prereferral Intervention Process

Treatment integrity of the prereferral intervention process can be difficult to measure because of its indirect approach to service delivery. The effectiveness of a prereferral intervention relies upon whether those responsible for implementing an intervention are performing what they said they would do. Since teachers have a tendency to rely more upon their experience or those of other teachers in making educational decisions than upon those of outside consultants (Rosenfield & Robinson, 1985), trainers must be aware of those issues related to teachers' receptivity to implement new practices that are based more on research than applied practice, especially as the new interventions involve the use of more of the teachers' time and energy.

Training combined with performance feedback are variables that are most closely related to implementation of new practices (Mortenson & Witt, 1998). If regular education teachers lack the knowledge, skill, and/or resources to carry out suggested strategies made by the prereferral intervention team or consultant, the planned intervention may not be effective (Lane, Madahvi, & Borthwick-Duffy, 2003).

Guided practice combined with the opportunity of teachers to witness the benefits of proposed changes may result in increased implementation on the teachers' part (Rosenfield & Robinson, 1985). Teachers are more apt to introduce a new instructional strategy in their classrooms with demonstrations, opportunities to practice the strategy during the training, combined with feedback from trainers (Denton et al., 2003).

Fuchs, Fuchs, Harris, and Roberts (1996) observed that more positive results were obtained when prereferral teams were initially trained. However, as district support waned and university research teams stopped monitoring the process, the prereferral interventions were not always implemented as intended. If teachers' beliefs, priorities, competencies, and needs were not addressed initially, implementation of prereferral interventions often was low due to a lack of commitment. Implementation of strategies and educational approaches by classroom teachers is an extremely important part of the prereferral process (Sindelar, Griffin, Smith, & Watanabe, 1992).

Specific Learning Disability Incidence Rate

Special education placement rates should not be the only criterion chosen to measure the effectiveness of the prereferral intervention process. Instead, the reduction in inappropriate evaluations or the increase in the numbers of students going through the prereferral intervention process may more adequately assess the value of the process (McNamara & Hollinger, 2003). However, those measures most frequently used to judge the effectiveness of prereferral interventions include rate of referral for special education evaluation and placement rate in special education programs (Rock & Zigmond, 2001; Sindelar et al., 1992). Advocates of prereferral intervention team models would prefer that this process not be so closely linked to referrals for special education decision

making preferring instead to look at those variables that contributed to the student being referred for a prereferral intervention than to investigating the appropriateness of a special education placement (McNamara & Hollinger, 2003; VanDerHeyden, et al., 2003).

Although special education placement rate is one of the dependent variables selected for this study, this researcher proposes that the independent variables of administrative support, data collection, and training will provide more information for Pennsylvania school districts as they attempt to identify what components should be in place at their elementary schools to increase the effectiveness of their prereferral intervention process.

Summary

This chapter began with an explanation of the IST process that was mandated to operate in at least one elementary school in each of the Pennsylvania school districts between 1990 and 1995. The review included research studies investigating the effectiveness of the IST process. Results from surveys provided information as to what some state educators considered to be "best practices" for instructional support teams. The chapter ended with a discussion of those variables that researchers have linked to the successful implementation of the prereferral intervention process: skills of the instructional support teacher, administrative support, data collection, and training.

CHAPTER III

METHODS

This chapter provides information on the design of the study, the population of interest, and how the sample was selected. Variables of the study are defined, along with the instruments utilized as a means of measurement. A timeline is included to explain the stages implemented to complete this study. Statistical analysis procedures are discussed in relation to the research questions and hypotheses. This study examines the relationship between factors that have been cited by advocates of prereferral intervention teams to be correlated with the effectiveness of prereferral team interventions: administrative support, training of staff members responsible for the coordination of the IST or prereferral intervention process, and the use of systematic data collection for decision-making purposes. In addition, this study investigates to what extent a trained experienced full-time instructional support teacher or prereferral intervention coordinator has on the dependent variables, which are level of implementation of the prereferral team process and the number of students being identified in need of special education programming for specific learning disabilities.

Design

This study is a quantitative, non-experimental research design that utilized a survey method to collect information on how prereferral intervention teams operate in different elementary schools across Pennsylvania. The dependent variable is the SLD incidence rate, which is the percentage of students with specific learning disabilities identified by the school district in which the elementary school is located. Information

on the total number of students within the district, the number of students identified as special education students, and the percentage of special education students identified with specific learning disabilities was accessed on a Pennsylvania Department of Education website, the Pennsylvania Special Education Data Reports for the 2004-2005 school year (2005) and entered into an Excel data base.

Descriptive research techniques were utilized to collect data related to the independent variables. Information of interest included (1) the experience and responsibilities of the instructional support teacher or prereferral intervention coordinator; (2) administrative support, policy, and procedures; (3) training opportunities for the instructional support teacher or prereferral intervention coordinator; and (4) the practice of systematic data collection related to the prereferral intervention process.

Level of implementation (LOI) of the prereferral intervention process was selected as a mediating variable. Level of implementation was quantified by a rubric created by the researcher. The data collected to complete the rubric was garnered from six questions contained within the survey instrument.

Sample

There were 1738 elementary school principals in Pennsylvania that served as the population from which the sample was selected. The names and addresses of these principals were obtained through a Pennsylvania Department of Education website (Education Names and Addresses, 2005). The following administrative positions listed on this website were not included as the initial contact person for this study: chief executive officer, assistant principal, acting principal, head teacher, elementary

supervisor, or administrative intern. However, elementary principals who received the research packet were permitted to select another staff member to provide the requested information related to this research. If someone other than the elementary principal provided answers for the survey, that individual was asked to identify his or her position, which would further define subject participants.

A total of 467 elementary principals were contacted to voluntarily participate in the study, which represents approximately 27% of the total population. Initially the sample was to consist of 540 elementary principals with 20 subjects assigned to each cell; however, when the procedure for selecting subjects was followed, there were not enough schools that fit the criteria for certain cells. Also, during the assignment process, there were some schools that were initially assigned incorrectly. When this error was corrected, some cells then contained more than 20 subjects.

Rather than rely upon a random selection, the subjects were selected based upon the following characteristics of the school in which they were employed: (1) school district funding sources, (2) geographic location, and (3) population density of the school district in which the elementary school was operating. This method of assigning subjects was chosen to control extraneous variables that may correlate with the effectiveness of a prereferral intervention team. For instance, some may argue that schools that have more financial resources would be in a better position to attract more experienced teachers or to create and maintain sufficient staffing to allow for more remedial assistance or strategic support to the at-risk students. Varying opinions may exist as to what extent population density is a factor because some individuals may believe that the more rural school district may have less students to monitor and have a closer home-school relationship,

while another viewpoint could be that more educated, professional parents may reside in more urban areas and have the ability and resources to provide more support to their school age children. These extraneous variables could be factors worth researching in the future to further understand the prereferral intervention process, but they are not being investigated in this particular study. The decision to separate school districts according to geographic location was based upon a previous study on instructional support teams (Kovaleski et al., 1999).

Since over 57% of school funding sources are obtained through local taxes such as real estate taxes and earned income taxes (School Finance Advisory Board, 2001), the Market Value/ Personal Income aid ratio (MV/PI) was the statistic used to quantify the combined market value and income wealth for each pupil for Pennsylvania school districts (Aid Ratio/CARF, 2005). The 501 school districts were ranked in descending order from a .1500 ratio to a .8526 ratio, with those districts with a .1500 ratio being designated as the most affluent school districts. The 501 school districts were divided into three groups: high, medium, or low SES. The 167 school districts chosen to represent high SES had MV/PI ratios ranging from .1500 to .5047. The 167 school districts selected to represent medium SES had MV/PI ratios ranging from .5062 to .6504. The 167 school districts representing low SES ranged from .6506 to .8526. Table 1 shows that initially 180 elementary schools were to represent the high SES group, 180 elementary schools the medium SES group, and 180 elementary schools the low SES group.

Next, the researcher identified the school district's geographic location. The state was divided into 3 broad areas (West, Central, and Eastern) by drawing two vertical lines

through a map identifying the location of 29 intermediate units (IUs). The western part of the state included the following IUs, which are identified by numerals: 1, 2, 3, 4, 5, 6, 27, and 28. The central part of the state included: 7, 8, 9, 10, 11, 12, 15, 16, and 17. The eastern part of the state included these IUs: 13, 14, 18, 19, 20, 21, 22, 23, 24, 25, 26, and 29. The initial plan was for principals from 180 eastern public elementary schools, 180 central public elementary schools, and 180 western public elementary schools to participate in the study. See Table 1.

The third criterion for selection was population density of the public elementary school, which was based upon the National Center for Education Statistics (NCES) codes for the 2002-03 school year (Stable, 2004). School districts with the NCES codes of 1 (large city) or 2 (midsize city) were classified as having an urban population. School districts with NCES codes of 3 (urban fringe) or 4 (inside a Metropolitan Statistical Area) were classified as suburban. School districts with NCES codes of 5 (large town), 6 (small town), 7 (rural), or 8 (outside an MSA) were classified as rural. Table 1 displays the breakdown of public elementary schools according to population density, with 180 public elementary schools proposed for the sample with an urban classification, 180 public elementary schools with suburban density, and 180 public elementary schools designated as rural.

The sequence for subject assignment began with identifying the financial resources proposed to be available to the different school districts across Pennsylvania. Using the Aid Ratio Excel database, an alphabetic listing was composed. Next, information was added to the database identifying the geographic location. One roll of a die determined which school district would be checked for a public elementary school

that was considered urban, suburban, or rural. If the school district had more than one elementary school, the die was rolled again to select which elementary school principal would be contacted for participation. This process was continued to randomly select 20 public elementary schools for each cell unless there were an insufficient number of schools meeting the established criteria.

Table 1

Sample Assignments

	High Aid Ratio			Middle Aid Ratio			Low Aid Ratio			
	East	Central	West	East	Central	West	East	Central	West	
Urban	20	20	20	20	20	20	20	20	20	180
Suburban	20	20	20	20	20	20	20	20	20	180
Rural	20	20	20	20	20	20	20	20	20	180
Total	60	60	60	60	60	60	60	60	60	540

Materials

The materials used for this study included a 28-question survey, the *Survey of the Prereferral Intervention Team Process* (see Appendix D), and the *Level of Implementation of the Prereferral Intervention Process Rubric* (see Table 2 through Table 7). These materials were created by the researcher to investigate four independent variables: teaching experience of the instructional support teacher or prereferral intervention coordinator, administrative support, training related to the prereferral intervention process, the practice of systematic data collection, and the mediating variable, level of implementation of the prereferral intervention process.

The *Survey of the Prereferral Intervention Team Process* was divided into 5 sections, which was organized so that the respondent could skip particular sections that did not apply to the respondent's elementary school. The first part of the survey included nine questions to investigate whether an IST process or other type of prereferral intervention process operated in that principal's elementary school and what the skills and teaching experiences were of the individual coordinating the prereferral intervention team. The second part of the survey consisted of six questions, four of which aided in quantifying the level of implementation of the prereferral process. Part 3 contained questions that investigated training opportunities available that were related to the prereferral intervention process. Six questions about data collection were included in Part 4, which also included two LOI questions. The final part of the survey primarily consisted of questions assessing support of the prereferral intervention process from the administration.

Table 2

Level of Implementation of the Prereferral Intervention Process Rubric for Survey Question 10

10.	Check which of the following activities that the instructional support teacher/prereferral intervention coordinator is conducting on an ongoing basis in your elementary school. *Check all that apply.* ____ Interviews teachers who refer students ____ Collects information from the majority of teachers who provide instruction ____ Interviews parent(s) or guardian(s) ____ Observes student in classroom and/or unstructured settings ____ Conducts curriculum-based (instructional) assessments ____ Informs and invites parent(s) or guardian(s) to meetings ____ Facilitates the problem solving process ____ Maintains required paperwork

Standard	**3 (High Implementation)**	**2 (Medium Implementation)**	**1 (Low Implementation)**	**0 (No Implementation)**
A full-time support teacher or prereferral intervention coordinator is in place and performing critical instructional support functions.	The support teacher or prereferral intervention coordinator conducts interviews, classroom observations, and ongoing assessments; involves parents in the prereferral process by conducting interviews and inviting them to meetings; teaches students learning strategies; facilitates the problem solving process; and maintains required paperwork. **If 7-8 items are checked on question #10, 3 points are assigned.**	The support teacher or prereferral intervention coordinator is a team facilitator who periodically provides essential functions with students, parents and teachers. **If 4-6 items are checked on #10, 2 points are assigned.**	The support teacher or prereferral intervention coordinator performs minimal activities to assure compliance with the prereferral intervention requirement. **If 1-3 items are checked on #10, 1 point is assigned.**	There is not a support teacher or prereferral intervention coordinator in place to conduct essential functions. **If no items checked on #10, 0 points are assigned.**

Table 3

Level of Implementation of the Prereferral Intervention Process Rubric for Survey Question 11

11.	Check what types of support the referring classroom teacher would expect from the IST teacher/ prereferral intervention team coordinator. ***Check all that apply.*** ____ Contacting other teachers providing instruction to the referred student ____ Demonstrations in the classroom as to how suggested interventions can be integrated as part of regular classroom routine ____ Providing referred student with small group instruction outside of the regular classroom ____ One-on-one instruction of the referred student outside of the regular classroom by the IST teacher or other member of the team ____ Coordination of tutorial program involving adult or student volunteers

Standard	**3 (High Implementation)**	**2 (Medium Implementation)**	**1 (Low Implementation)**	**0 (No Implementation)**
The IST teacher or Prereferral Intervention coordinator utilizes a regular education continuum of services to provide support for identified students.	The support teacher or prereferral intervention coordinator works with the referred student during the prereferral process by helping the teacher integrate learning strategies as part of the regular classroom routine; providing small group instruction outside of the classroom; one-on-one instruction by a member of the team; coordination of tutorial assistance. **If 5 items are checked on #11., 3 points are assigned.**	The support teacher or prereferral intervention coordinator supports the referred student during the prereferral process by performing 3 of the services listed above. **If 3-4 items are checked on #11, 2 points are assigned.**	The support teacher or prereferral intervention coordinator supports the referred students, but only provides a minimum of the above services. **If 1-2 items are checked on #11, 1 point is assigned.**	The support teacher or prereferral intervention coordinator does not perform any of the tasks listed above. **If no items are checked on #11, 0 points are assigned.**

Table 4

Level of Implementation of the Prereferral Intervention Process Rubric for Survey Question 12

12.	In what ways are the majority of regular education classroom teachers actively involved in the elementary school IST/prereferral intervention process? ***Check all that apply.***
	____ Refer students having academic or behavior difficulties in the regular education classroom.
	____ Attend scheduled IST/prereferral intervention team meetings of students they refer
	____ Carry through with interventions or strategies selected by the IST/prereferral team
	____ Collect data on student performance before and after the IST/prereferral team intervention
	____ Serve on prereferral intervention teams, if invited, even though the teacher did not make the prereferral intervention referral.

Standard	**3 (High Implementation)**	**2 (Medium Implementation)**	**1 (Low Implementation)**	**0 (No Implementation)**
Classroom teachers are actively involved in the IST or prereferral process.	Classroom teachers refer students with learning difficulties for an IST or prereferral intervention; attend scheduled meetings; willingly incorporate effective strategies as part of their regular classroom routines; and service on prereferral intervention teams for students from other classrooms.	Classroom teachers refer students with learning difficulties; attend scheduled meetings; participate in one or two other functions listed above.	Classroom teachers refer students with learning difficulties and/or attend scheduled meetings, but do not as a rule carry through with interventions, collect data, or serve on prereferral intervention teams for students that they did not refer.	Teachers do not identify students as needing an IST or prereferral intervention and do not make classroom modifications as developed by the initial IST Initiative.
	If 5 items are checked on #12, 3 points are assigned.	**If 3-4 items are checked on #12, 2 points are assigned.**	**If 1-2 items are checked on #12, 1 point is assigned.**	**If no items are checked on #12, 0 points are assigned.**

Table 5

Level of Implementation of the Prereferral Intervention Process Rubric for Survey Question 15

15.	Check in what ways the parent(s) or guardian(s) are involved in the IST/prereferral intervention process. ***Check all that apply.*** ____ Contacted orally or in writing of their child's referral for an IST/prereferral intervention ____ Invited to attend IST/prereferral intervention meeting ____ Asked to work with the team to identify effective strategies or interventions ____ Informed of progress toward goals established by IST/prereferral team ____ Notified orally or in writing of IST/prereferral intervention outcomes

Standard	**3 (High Implementation)**	**2 (Medium Implementation)**	**1 (Low Implementation)**	**0 (No Implementation)**
Parents or guardians are actively involved in the IST/prereferral intervention process.	Parents or guardians are contacted about an IST/prereferral intervention; invited to attend meeting; asked to work with team to identify strategies and interventions; informed of progress toward goals and/or notified about prereferral outcomes.	Parents or guardians are invited to participate in the process, but the IST/prereferral team only perform 3 of the tasks listed above related to obtaining maximum participation.	Parents or guardians are only minimally involved in the prereferral intervention process.	Parents or guardians are not informed when their child needs an IST/prereferral intervention.
	If 4-5 items are checked on #15, 3 points are assigned.	**If 3 items are checked on #15, 2 points are assigned.**	**If 1-2 items are checked on #15, 1 point is assigned.**	**If no items are checked on #15, 0 points are assigned.**

Table 6

Level of Implementation of the Prereferral Intervention Process Rubric for Survey Question 21

21.	Check the type of information that is collected on a regular basis on all students who are referred for an IST/prereferral intervention. *Check all that apply.* ____ Information from parent/teacher interviews ____ Classroom observations ____ Classroom graded materials ____ Curriculum-based assessments/measurements ____ Functional behavior assessments ____ Standardized testing information

Standard	**3 (High Implementation)**	**2 (Medium Implementation)**	**1 (Low Implementation)**	**0 (No Implementation)**
The IST/ prereferral intervention team collects data on a consistent basis to help with team decision-making.	The IST/ prereferral intervention team collects at least 5 of the following types of data to help with team decision-making: parent/teacher interviews, classroom observation, classroom graded materials, curriculum-based assessments/ measurements, functional behavior assessments, and/or standardized testing information. **If 5-6 items are checked for #21, 3 points are assigned.**	The IST/ prereferral intervention team collects 3 to 4 of the following types of data to help with team decision-making: parent/teacher interviews, classroom observation, classroom graded materials, curriculum-based assessments/ measurements, functional behavior assessments, and/or standardized testing information. **If 3-4 items are checked for #21, 2 points are assigned.**	The IST/ prereferral intervention team only collects minimal information to assist with team decision-making. **If 1-2 items are checked for #21, 1 point is assigned.**	The IST/ prereferral intervention team does not collect information on a consistent basis to help with team decision-making. **If no items are checked for #21, 0 points are assigned.**

Table 7

Level of Implementation of the Prereferral Intervention Process Rubric for Survey Question 23

23.	Check how progress toward IST/prereferral intervention team goals is measured. ***Check all that apply.*** ____ A member of the IST/prereferral team (not the referring teacher) conducts a weekly assessment. ____ A member of the IST/prereferral team (not the referring teacher) collects assessment information at the beginning and the end of the intervention period. ____ The classroom teacher collects pre- and post-data information, usually test scores, grades, or checklists. ____ There is no systematic data collection conducted to determine the success of an intervention.

Standard	**3 (High Implementation)**	**2 (Medium Implementation)**	**1 (Low Implementation)**	**0 (No Implementation)**
The referred student's response to the IST/prereferral interventions is monitored throughout the IST/prereferral intervention period.	A member of the IST/prereferral team (not the referring teacher) conducts a weekly assessment. **If the first item is checked, 3 points are assigned.**	A member of the IST/prereferral team (not the referring teacher) collects assessment information at the beginning and the end of the intervention period. **If the second item is checked, 2 points are assigned.**	The classroom teacher collects pre- and post-data information. **If the third item is checked, 1 point is assigned.**	There is no systematic data collection conducted to determine the success of an intervention. **If the fourth item is checked, 0 points are assigned.**

Procedures

Data Collection

During the first week of the study, survey packets were sent out to the 467 selected elementary school principals. The survey packets included the cover letter (see Appendix A), the *Survey of the Prereferral Intervention Team Process,* and a stamped return envelope. The cover letter explained the purpose of the research and how the respondent's confidentiality would be maintained through the reporting of group results. A numeric code was placed on each survey to help identify which subjects had returned the completed survey. After 14 days passed from the initial mailing, a follow-up postcard was sent to the principals either to thank them for their participation or to remind them to return the survey (see Appendix B). Information was provided on how to obtain a replacement survey packet, if needed. If the survey was not returned after 30 days, another reminder was sent to the principal either through the mail or through an email address (see Appendix C). Although the letter used for the third mailing informed the recipients how to contact the researcher to obtain a new survey, a copy of the survey accompanied the letter. In those instances in which elementary principals informed the researcher that they were electing not to participate, the researcher returned to the sample to select other subjects with similar characteristics. As completed surveys were returned, responses to the *Survey of the Prereferral Intervention Team Process* were stored in a Microsoft Excel data base.

Timeline

The timeline for this study is presented sequentially in Table 8. As stated previously, the survey mailings included the initial cover letter that included the survey packet, a follow-up postcard reminder to those schools that did not respond to the first mailing, and then a second letter, which also included a survey.

Table 8

Timeline

Dates	Activity
Months 1 through 4	Surveys mailed.
Months 5 through 6	Survey responses entered into Excel program.
Months 7 through 17	Data analyzed.

Confidentiality

Confidentiality of the data was maintained by assigning an alpha- numeric ID code to the questionnaire. The alpha-numeric code was used to identify whether an additional contact with the elementary principal was necessary to encourage the completion and return of the questionnaire. Once the completed survey was returned, any information that identified the respondent was eliminated once the researcher identified on a separate list those elementary schools that continue to implement the IST model. This list was created to assist future researchers interested in furthering our understanding of the instructional support process in Pennsylvania. For the purposes of this study, only group results were reported.

Research Hypotheses

There are thirteen research hypotheses that investigate the relationship between the independent, mediating, and dependent variables.

Hypothesis 1. Elementary schools that continue to employ an instructional support teacher will display higher level of implementation of the prereferral intervention process than schools that no longer employ an instructional support teacher.

Hypothesis 2: Elementary schools that continue to employ an instructional support will be less likely to identify students in need of learning support services due to a specific learning disability.

Hypothesis 3. There will be a positive relationship between teaching experience of the instructional support teacher and level of implementation of the prereferral intervention process.

Hypothesis 4: There will be an inverse relationship between teaching experience of the instructional support teacher and the SLD incidence rate.

Hypothesis 5. There will be a positive relationship between teaching experience of the prereferral intervention coordinator and level of implementation of the prereferral intervention process.

Hypothesis 6. There will be an inverse relationship between teaching experience of the prereferral intervention coordinator and the SLD incidence rate.

Hypothesis 7: Elementary schools that maintain a low ratio of students to the instructional support teacher/prereferral intervention coordinator, create policies and procedures requiring referrals to an instructional support team/prereferral intervention process before making multidisciplinary evaluation referrals, regularly attend

instructional support team/prereferral intervention meetings, and schedule times to conduct instructional support team/prereferral intervention meetings during teacher contracted hours will have higher levels of implementation of the prereferral intervention process.

Hypothesis 8: Elementary schools that maintain a low ratio of students to the instructional support teacher/prereferral intervention coordinator, create policies and procedures requiring referrals to an instructional support team/prereferral intervention process before making multidisciplinary evaluation referrals, regularly attend instructional support team/prereferral intervention meetings, and schedule times to conduct instructional support team/prereferral intervention meetings during teacher contracted hours will have a lower SLD incidence rate.

Hypothesis 9: There will be a positive relationship between the number of training opportunities related to the prereferral intervention process and the level of implementation of the prereferral intervention process.

Hypothesis 10: There will be an inverse relationship between training opportunities and the percentage of students within the school district being identified in need of special education due to a specific learning disability.

Hypothesis 11: There will be a positive relationship between the practice of systematic data collection for decision making and the level of implementation of the prereferral intervention process.

Hypothesis 12: There will be an inverse relationship between the practice of systematic data collection and the SLD incidence rate.

Hypothesis 13**:** There will be an inverse relationship between the level of implementation of the prereferral process and the SLD incidence rate.

Statistical Analysis

Various statistical analyzes were selected to provide information on the variables related to the prereferral intervention process operating in various public elementary schools across Pennsylvania. Criterion levels for statistical procedures were established at $p<.05$. Multiple linear regression analysis was used to determine what variables predict level of implementation of the prereferral intervention process and the SLD incidence rate. In addition, t-tests were utilized to determine if there were any significant differences among schools that continue to employ instructional support teachers and those schools that have assigned the prereferral intervention process to other personnel within the school. Table 9 provides information on which survey questions and statistical analyses are associated with specific hypotheses.

Table 9

Statistical Procedures of Hypotheses

Hypothesis	Variables	Survey Questions	Statistical Procedure
1	IS teacher and LOI	SQ2 and SQ10,11,12,15,21,23	Independent t-test
2	IS teacher and SLD rate	SQ2	Independent t-test
3	Teaching experience of IS teacher and LOI	SQ5 and SQ10,11,12,15,21,23	Multiple regression
4	Teaching experience of IS teacher and SLD rate	SQ5	Multiple regression
5	Teaching experience of PIC and LOI	SQ9 and SQ10,11,12,15,21,23	Multiple regression
6	Teaching experience of PIC and SLD rate	SQ9	Multiple regression
7	Administrative support and LOI	SQ13,14,26,27 and SQ10,11,12,15,21,23	Multiple regression
8	Administrative support and SLD rate	SQ13,14,26,27	Multiple regression
9	Training and LOI	SQ16,17,19 and SQ10,11,12,15,21,23	Multiple regression
10	Training and SLD rate	SQ16,17,19	Multiple regression
11	Data collection and LOI	SQ20,22,24 and SQ10,11,12,15,21,23	Independent t-test Multiple regression
12	Data collection and SLD rate	SQ20,22,24	Independent t-test
13	LOI and SLD rate	SQ10,11,12,15,21,23	Multiple regression

Summary

This chapter provided information on the different methods used to carry out this quantitative, non-experimental study of how the prereferral intervention process operates in a sample of Pennsylvania elementary schools. A description is given on the process chosen to select the subjects who were asked to answer questions related to the dependent and independent variables. The instruments designed to assess these variables were explained. Information is given on the data collection procedure and the timeline of activities. This section ended with an explanation of the statistical analyses selected to provide information on the different variables investigated in this study.

CHAPTER IV

RESULTS

This chapter presents results of the survey regarding the status of the prereferral intervention team process in Pennsylvania elementary schools since the removal of the Instructional Support Team mandate. This chapter begins with information on survey return rates and is followed by data as to which schools continue to employ the IST process and which schools have selected an alternative approach. A brief description is provided on data related to the proposed mediating variable, level of implementation of the prereferral intervention process (LOI), and the dependent variable, the SLD incidence rate. Then, the results of the statistical procedures are presented on each of the 13 research hypotheses. Analyses are included on the four independent variables: (1) teaching experience of the instructional support teacher/prereferral coordinator, (2) administrative support, (3) training related to the prereferral intervention process, and (4) the practice of systematic data collection.

Statistical analyses were completed using SPSS 12.0 computer software. The analyses selected included descriptive statistics, independent t-tests, and multiple linear regression analyses. Criterion level for statistical procedures was $p<.05$.

Survey Responses Rates

A total of 467 survey packets were sent out to elementary school principals across Pennsylvania; however, ten packets were returned by the post office. A few of these returns occurred because the elementary schools had merged with other schools; however, there were some postal returns that could not be explained. Out of the 457

surveys that should have reached the school principals, one survey was returned by a principal who elected not to participate in the project. There were a total of 215 surveys returned to the researcher out of the 456 mailed surveys for a cumulative return rate of 47%. Table10 shows the variation between the subject assignment categories in terms of rate of return.

The survey return rates were similar for aid ratio assignment with percentage rates ranging from 45% to 50%. In terms of geographic location, the return rate was relatively higher for principals located in schools selected to represent the central region of the state. The percentage rates for the 3 regions were: Eastern, 43%; Central, 51%; and Western, 47%. Principals working in schools designated as suburban or rural had higher return rates (suburban, 51%; rural, 57%) than principals working in urban schools (urban, 23%). The return rate for individual cells ranged from 0%, which was due to the fact that only one subject was assigned to that cell and that subject did not return the survey, to a high of 80%. The average percentage of return for individual cell assignments was 44%.

Table 10

Subject Assignments and Survey Return Rates

	High Aid Ratio 71/141 50%			**Medium Aid Ratio** 68/151 45%			**Low Aid Ratio** 77/154 50%		
	East	Central	West	East	Central	West	East	Central	West
Urban 23/101 23%	3/10 30%	3/13 23%	0/0	2/4 50%	0/1 0%	3/20 15%	3/20 15%	6/19 32%	3/14 21%
Suburban 93/181 51%	10/19 53%	14/23 61%	13/22 59%	11/22 50%	12/20 60%	8/21 38%	5/14 36%	8/20 40%	12/20 60%
Rural 99/174 57%	10/20 50%	9/19 47%	8/15 53%	11/23 48%	13/20 65%	8/20 40%	9/17 53%	14/20 75%	17/20 80%
Total 215/456 47%	23/49 47%	26/55 47%	21/37 58%	24/49 49%	25/41 61%	19/61 31%	17/51 33%	28/59 47%	32/54 59%

Note: Percentage return rates included in the table are based upon numbers of surveys received/number of surveys sent.

Survey Respondents

The majority of survey respondents (60%; 131 out of 217 respondents) were elementary school principals. The next highest classification of respondent was the instructional support teacher (19%; 42 out of 217 respondents). There were four instances in which the elementary principal and instructional support teacher conferred with each other to complete the survey (2%; 4 out of 217 respondents). The remaining respondents included the counselor (4%; 9/217), prereferral intervention coordinator (1%; 2/217), others (3%; 7/217; special education coordinator, child assistance team coordinator, intervention coordinator, instructional support teams coordinator, administrative intern, assistant principal, data collection specialist, and special education teacher), and multiple respondents and/or respondents holding multiple positions in the school (4%; 9/217). Thirteen respondents (6%) did not identify the position that they held within the school.

Elementary Schools Continuing to Implement the IST Process

There were 177 respondents out of 217 respondents (82%) who stated that their elementary school continues to operate an IST prereferral intervention process in which the instructional support teacher coordinates the process, collects different forms of assessments to determine instructional level, and works with other team members to try to meet students' academic/behavioral needs without a special education placement. There was one respondent who had reported that an IST prereferral intervention process was no longer operating in the school; however, the school continues to employ an instructional support teacher. The discrepancy between these responses can be explained

by the later response that the school now refers to their prereferral intervention process as a Response to Intervention model.

There were 133 elementary schools reporting that they continue to employ at least one instructional support teacher. Of the 217 elementary schools, 128 schools or 59% employ full-time instructional support teachers, and 5 of these schools utilize the services of a part-time instructional support teacher. Elementary schools employing instructional support teachers also varied according to the ratio of instructional support teacher to the number of students in the school, which ranged from a minimum of 100 students to a maximum of 1500 students (M = 529.58, SD = 259.45). The ratios of part-time instructional support teachers were adjusted if instructional support teachers had to divide their time between multiple schools or if the instructional support teacher had another position in the school. For instance, if the principal reported that the school had a ½ time instructional support teacher who was also classified as a ½ time special education teacher, then the total number of students in the school was multiplied by 2. Schools with a ½ time instructional support teacher in schools with 400 students would be assigned a ratio of one to 800 students. There were 28 schools (21%) in which the ratio of students in the elementary school to instructional support teacher was one to 300 or less; 45 schools (33%) with ratios of one to more than 301 students and 500; 56 schools (41%) with ratios of 501 to 1000 or less; and seven schools (5%) with ratios of one to 1001 or more.

The amount of teaching experience of the instructional support teacher ranged from 1 year to 45 years (M = 18.97; SD = 9.90). Table 11 presents information on the

different types of professional experience that the instructional support teacher had prior to becoming the instructional support teacher.

Table 11

Frequency Table of the Professional Experience of the Instructional Support Teacher

	Frequency	Percent
Regular education teacher	46	33.8%
Special education teacher	28	20.6%
Regular education and remedial education teacher	19	14.0%
Regular education and special education teacher	9	6.6%
Remedial education teacher	7	5.1%
Other: Counselor (5), music teacher (1), unidentified (1)	7	5.1%
Regular education teacher and other	6	4.4%
Regular, remedial teacher and other	5	3.7%
Regular, remedial, and special education teacher	4	3.0%
Remedial education and special education teacher	2	1.5%
Regular, remedial, special education teacher and other	2	1.5%
Special education teacher and certified reading specialist	1	0.7%
Regular, special education teacher and other	1	0.7%

Elementary Schools Implementing Alternative Prereferral Intervention Processes

Eighteen percent of the elementary schools ($N = 40$) no longer operate an IST prereferral intervention process in which the instructional support teacher coordinates the process, collects different forms of assessments to determine instructional level, and works with other team members to try to meet student's academic/behavioral needs without a special education placement. There were an additional 20% of the respondents ($N = 44$) that reported employing an IST prereferral process without the services of an instructional support teacher.

Because these elementary schools do not have an instructional support teacher who is responsible for coordinating prereferral intervention services, the coordination of the prereferral intervention process has been assigned to staff members who may have other responsibilities within the school. For instance, 45% of the schools no longer staffing an instructional support teacher have assigned the coordination of the prereferral intervention process to the school counselor. Twenty percent of the schools employ a team process that assigns responsibilities to more than one team member. Table 12 provides information on the different types of positions held by the prereferral intervention coordinator. Table 13 presents the different personnel who participate in the school's prereferral intervention team approach.

Table 12

Frequency Table of Positions Held by the Prereferral Intervention Coordinator

	Frequency	Percent
Counselor	36	45.0%
Team approach	18	22.5%
Principal	5	6.3%
Counselor and school psychologist	3	3.8%
Regular education teacher	2	2.5%
Remedial teacher	2	2.5%
Regular education teacher and counselor	2	2.5%
Remedial teacher and counselor	2	2.5%
Counselor and principal	2	2.5%
Special education teacher/ learning support teacher	2	2.5%
Regular education teacher and principal	1	1.3%
School psychologist	1	1.3%
Literacy coach and intervention coordinator	1	1.3%
Intervention coordinator	1	1.3%
Special education coordinator	1	1.3%
ESAP coordinator	1	1.3%

Table 13

Frequency Table of the Composition of Prereferral Intervention Teams

	Frequency
Principal, regular education teacher, Title teacher, counselor, and school psychologist	4
Principal, counselor, and regular education teacher	2
Principal, counselor, and special education coordinator	1
Principal, school psychologist, and grade level team	1
Principal, school psychologist, regular education teacher, and reading specialist	1
Principal, counselor, and language and math support personnel	1
Title teacher, counselor, and school psychologist	1
Regular education teacher, Title teacher, and counselor	1
Title teacher, counselor, and team approach	1
Regular education teacher, Title teacher, and ESAP team	1
Regular education and Title teacher	1
Counselor and team approach with no name of team provided	1
ESAP team	1
Team approach with no specific name provided	1

Level of Implementation of the Prereferral Intervention Process

Total scores on the *Level of Implementation of the Prereferral Intervention Process Rubric* ranged from 5 to 18 (possible scores: minimum, 0; maximum, 18). Forty-two percent of the schools ($N = 91$) earned the maximum number of points for each category, and 89% of these schools ($N = 81$) reported employing instructional support teachers. Sixteen percent of the schools ($N = 34$) had LOI scores of less than 10. Eighty-five percents of these schools ($N = 29$) no longer employed instructional support teachers.

In response to SQ10, which measured whether an instructional support teacher or prereferral intervention coordinator was in place and was performing critical instructional support functions, 74% of the schools ($N = 160$) indicated that the instructional support teacher/prereferral intervention coordinator performed 7 or 8 of the activities listed in the question; 24% of the schools ($N = 51$) had medium implementation scores for checking between 4 and 6 of the activities, and 2% ($N = 4$) had low implementation scores for checking between 1 and 3 items.

In response to SQ11, whether the instructional support teacher or prereferral intervention coordinator utilizes a regular education continuum of services to provide support for identified students, 23% of the schools ($N = 50$) had high implementation scores for checking all 5 items, 43% of the schools ($N = 93$) had medium implementation scores for checking between 3 and 4 items, 32% of the schools ($N = 68$) had low implementation scores for checking 1 or 2 items, and 2% of the respondents ($N = 4$) did not mark any items.

In response to SQ12, which collected information on how actively regular education classroom teachers were involved in the IST/prereferral intervention process,

58% of the schools (*N* = 125) had high implementation scores for selecting all 5 items, 39% of the schools (*N* = 84) had medium implementation scores for checking 3 or 4 items, and 2% of the schools (*N* = 7)) had low implementation scores for checking 1 or 2 items.

In response to SQ15, which collected information on the extent of parental involvement, 88% of the schools (*N* = 192) had high implementation scores for checking all 5 items, 6% of the schools (*N* = 13) had medium implementation scores for selecting 3 or 4 items, 5% of the schools (*N* = 11) had low implementation scores for checking 1 or 2 items, and one school did not mark any items.

In response to SQ21, which related to the data collection practices of the IST/ prereferral intervention team, 77% of the schools (*N* = 163) had high implementation scores for marking 5 or 6 items, 10% of the schools (*N* = 21) had medium implementation scores for checking 3 or 4 items, no schools had low implementation scores, and 14% (*N* = 29) reported no implementation. If the principal had previously indicated that the IST/prereferral intervention teams were not collecting data on a systematic basis to aid in education decision making, then this question was skipped. Two principals reported that their schools collected data, but they did not answer SQ21, and two principals did not respond to this question.

In response to SQ23, which focused upon the logistics of progress monitoring of the referred student, 31% of the schools (*N* = 66) had high implementation scores because a member of the IST/prereferral intervention team, but not the referring teacher, was conducting a weekly assessment, 37% of the schools (*N* = 78) had medium implementation scores because a member of the IST/prereferral team (not the referring

teacher) was collecting assessment information at the beginning and the end of the intervention period, 16% of the schools (N = 31) had low implementation scores because monitoring of progress of the referred student was limited to the classroom teacher collecting pre- and post-data information, and 18% (N = 38) reported that there was no systematic data collection conducted to determine the success of an intervention. Two principals had reported in SQ20 that their schools *collected* data, but they did not answer SQ23, and one principal did not respond to this question.

Specific Learning Disability (SLD) Incidence Rate

The incidence rate of SLD ranged from 1.3% to 14.91%. Twenty-seven percent of the school districts (N = 59) had percentage rates of 10% or more; 64% of school districts (N = 138) had percentage rates of between 5% and 10%; and 9% of the school districts (N = 20) had percentage rate of less than 5%. There were 113 school districts that had percentage rates below the state rate (7.86%), and 104 school districts with rates higher than the state rate for identifying students with specific learning disabilities.

The Relationship between Continued Employment of Instructional Support Teachers and Level of Implementation of the Prereferral Intervention Process

Hypothesis 1 proposed that elementary schools that continue to employ an instructional support teacher will display higher level of implementation of the prereferral intervention process than schools that no longer employ an instructional support teacher. An independent samples t-test analysis was conducted to investigate this hypothesis. The number of schools continuing to employ an instructional support teacher was 133, and the

number of schools no longer employing an instructional support teacher was 84. The LOI score for schools that continue to employ an instructional support teacher (M = 15.25) was 2.89 points higher that the LOI score of schools that no longer employ an instructional support teacher (M = 12.37). This difference is statistically significant at the 0.05 level (t = -7.05, p < .01, two-tail), supporting the hypothesis that schools employing instructional support teachers are more likely to implement the prereferral intervention process.

The Relationship between Continued Employment of Instructional Support Teachers and The SLD Incidence Rate

Hypothesis 2 proposed that elementary schools that continue to employ an instructional support teacher are less likely to identify students in need of learning support services due to a specific learning disability. To investigate the relationship between school districts that continue to staff instructional support positions and the percentage of students being identified in need of special education for specific learning disabilities, an independent t-test analysis was completed. Schools that continued to employ instructional support teachers had a SLD incidence rate of 8.1%, while schools no longer staffing this position had a SLD incidence rate of 8.3%. These percentage rates were based upon Pennsylvania Special Education Data Reports for the 2004-2005 school year of the percentage of students being identified with SLD within school districts. The difference between the rate of identifying students with specific learning disabilities of schools employing instructional support teachers (M = .081) and those no longer staffing this position (M = .083) was not statistically significant at the 0.05 level (t = .538,

$p < .59$, two-tail), which did not support the hypothesis that schools employing instructional support teachers are less likely to identify students in need of learning support services due to a specific learning disability.

The Relationship between Teaching Experience of the Instructional Support Teacher and Level of Implementation of the Prereferral Intervention Process

Hypothesis 3 proposed a positive relationship between teaching experience of the instructional support teacher and level of implementation of the prereferral intervention process. Sixty-two subjects provided an estimate of the number of years that the instructional support teacher had held this position in their school. The number of years that the instructional support teacher held this position ranged from 1 to 15 years ($M = 8.86$). Twenty-nine of the instructional support teachers (47%) had been employed for 10 or more years, and 33 (53%) had this position for less than 10 years. However, 13 instructional support teachers (21%) had been employed in the school for five years or less. Table 14 shows the regression model using the number of years of teaching experience reported for instructional support teachers. This variable accounted for less than 1% ($R^2_{Adj.} = .004$) of the total variance in level of implementation of the prereferral intervention process, with $F [1,131] = 1.49$; $p = .22$. The hypothesis that there is a positive relationship between teaching experience of the instructional support teacher and level of implementation of the prereferral intervention process was not supported.

Table 14

Multiple Regression Predicting Level of Implementation of the Prereferral Intervention Process and SLD Incidence Rate from Teaching Experience of the Instructional Support Teacher (IST) or the Prereferral Intervention Coordinator (PIC)

LOI score	n	B	SE B	β
Teaching experience/IST (SQ5)	133	- .03	.02	- .11
Teaching experience/PIC (SQ9)	80	.01	.03	.03
SLD incidence rate				
Teaching experience/IST (SQ5)	131	.00	.00	- .01
Teaching experience/PIC (SQ9)	80	.00	.00	- .03

The Relationship between Teaching Experience of the Instructional Support Teacher and the SLD Incidence Rate

Hypothesis 4 proposed an inverse relationship between teaching experience of the instructional support teacher and the SLD incidence rate. Table 9 shows the regression model using the number of years of teaching experience reported for instructional support teachers. This variable accounted for less than 1% ($R^2_{Adj.} = - .008$) of the total variance in percentage of students within the school district being identified in need of special education due to a specific learning disability, with $F [1,131] = .01$; $p = .92$. The hypothesis that there is an inverse relationship between teaching experience of the instructional support teacher and the SLD incidence rate was not supported.

The Relationship between Teaching Experience of the Prereferral Intervention Coordinator and the Level of Implementation of the Prereferral Intervention Process

Hypothesis 5 proposed a positive relationship between teaching experience of the prereferral intervention coordinator and level of implementation of the prereferral intervention process. Table 14 shows the regression model using the number of years of teaching experience reported for prereferral intervention coordinators. This variable accounted for less than 1% ($R^2_{Adj.}$ = - .012) of the total variance in level of implementation of the prereferral intervention process, F [1, 78] = .07; p = .80. The hypothesis that there is a positive relationship between teaching experience of the prereferral intervention coordinator and level of implementation of the prereferral intervention process was not supported.

The Relationship between Teaching Experience of the Prereferral Intervention Coordinator and the SLD Incidence Rate

Hypothesis 6 proposed an inverse relationship between teaching experience of the prereferral intervention coordinator and the SLD incidence rate. Table 14 shows the regression model using the number of years of teaching experience reported for prereferral intervention coordinators. The mean percentage rate of students within school districts identified due to a specific learning disability was 8.3%. The mean number of years of teaching experience was14.41 years. This variable accounted for less than 1% ($R^2_{Adj.}$ = - .012) of the total variance in the percentage of students within the school district being identified in need of special education due to a specific learning disability, with F [1, 78] = .05; p = .82. The hypothesis that there is an inverse relationship between

teaching experience of the prereferral intervention coordinator and the percentage of students within the school district being identified in need of special education due to a specific learning disability was not supported.

The Relationship between Administrative Support and Level of Implementation of the Prereferral Intervention Process

Hypothesis 7 proposed that elementary schools that maintain a low ratio of students to the instructional support teacher/prereferral intervention coordinator, create policies and procedures requiring referrals to an instructional support team/prereferral intervention process before making multidisciplinary evaluation referrals, regularly attend instructional support team/prereferral intervention meetings, and schedule times to conduct instructional support team/prereferral intervention meetings during teacher contracted hours have higher levels of implementation of the prereferral intervention process.

To investigate the relationship between administrative support and level of implementation of the prereferral intervention process, statistical analyses were conducted to investigate the effect that ratios of instructional support teachers/prereferral intervention coordinators had on level of implementation, and then a multiple regression was completed to explore the relationship between IST/Prereferral policy, parent referral policy, principal participation at meetings, and scheduling IST/prereferral intervention meetings during teacher contracted hours.

The mean LOI score for instructional support teachers was 15.24, and the mean ratio of instructional support teacher to students was 519.9. The ratio accounted for less

than 1% of the variance ($R^2_{Adj.}$ = -.006) in level of implementation of the prereferral intervention process. The mean LOI score for schools with prereferral intervention coordinators was 12.4, and the mean ratio of prereferral intervention coordinator to students was 493. This ratio accounted for less than 1% of the variance in level of implementation of the prereferral intervention process. These results did not indicate that the ratio of instructional support teacher or prereferral intervention coordinator to students was significantly related to level of implementation of the prereferral intervention process.

Table 15 shows the regression model using IST/Prereferral policy, parent referral policy, principal participation at meetings, and scheduling IST/prereferral intervention meetings during teacher contracted hours. The mean LOI score was 14.23. There were 83% of schools that reporting having an IST/prereferral intervention policy, and 67% of schools have an IST/prereferral intervention policy for parents. The average principal attendance rate at IST/prereferral intervention meetings was 77.7%. Eighty-two percent of schools (82%) scheduled IST/prereferral intervention meetings scheduled during teacher contracted hours. This variable accounted for about 8.5% ($R^2_{Adj.}$ = .085) of the total variance in level of implementation of the prereferral intervention process, with F [4, 205] = 5.88; p = .001. Variables that made significant contributions to the formula were having a district policy or procedures that inform and strongly encourage parents/guardians to refer the student for an IST/prereferral intervention process before being referred for a multidisciplinary evaluation (β =.24, t = 3.13, p = .002), and allotting time during the school week for the IST/prereferral team to meet during teacher contracted hours (β = .13, t = 1.99, p = .048).

Table 15

Multiple Regression Predicting Level of Implementation of the Prereferral Intervention Process from IST/Prereferral Policy, Parent Referral Policy, Principal Participation at Meetings, and Meeting Time During Contracted Hours

DESCRIPTIVE STATISTICS -

Variable	n	Mean	S.D.	Range
LOI score	210	14.23	3.06	11.1 - 17.3
IST referral policy	210	.83	.38	0.5 - 1.2
Policy for parents	210	.67	.47	0.2 - 1.2
Principal participation	210	77.70	29.38	48.3 - 107.1
Meeting time	210	.82	.38	0.4 - 1.2

CORRELATION MATRIX -

Pearson Correlation	LOI	SQ13	SQ14	SQ26	SQ27
LOI score	1.00	.18	.27	.10	.12
IST referral policy (SQ13)		1.00	.50	.00	-.11
Policy for parents (SQ14)			1.00	.02	-.04
Principal participation (SQ26)				1.00	.05
Meeting time (SQ27)					1.00

REGRESSION predicting Level of Implementation of the Prereferral Intervention Process using IST Referral Policy, Policy for Parents, Principal Participation at Meetings, and Meeting Time During Contracted Hours

Model Fit	R square	Adjusted R squared
F [4, 205] = 5.88; p= .001	.103	.085

Variables in Equation

	B	SE B	β	t	p
IST referral policy (SQ13)	.58	.63	.07	.93	.354
Policy for parents (SQ14)	1.55	.49	.24	3.13	.002
Principal participation (SQ26)	.01	.01	.09	1.38	.169
Meeting time (SQ27)	1.06	.53	.13	1.99	.048

The Relationship between Administrative Support and the SLD Incidence Rate

Hypothesis 8 proposed that high administrative support for the prereferral intervention process results in a lower SLD incidence rate. To investigate whether higher ratios of instructional support teacher to students resulted in a lower SLD incidence rates, two separate linear regressions were conducted, one comparing the ratio of the instructional support teacher, and the second regression comparing the ratio of the prereferral intervention coordinator to the percentage rate of students within the school district being identified in need of special education due to a specific learning disability. The mean SLD incidence rate was .081 and the mean ratio of instructional support teacher to students was 519.9. This ratio accounted for less than 1% of the variance in SLD incidence rate. The mean SLD incidence rate was .083 and the mean ratio of prereferral intervention coordinator to students was 493. This ratio accounted for less than 1% of the variance ($R^2_{Adj.}$ = - .007) in the percentage rate of students within the school district being identified in need of special education due to a specific learning disability. These results did not indicate that the ratio of instructional support teacher or prereferral intervention coordinator to students was significantly related to the SLD incidence rate.

Table 16 shows the regression model using IST/Prereferral policy, parent referral policy, principal participation at meetings, and scheduling IST/prereferral intervention meetings during teacher contracted hours. This model accounted for about 3% ($R^2_{Adj.}$ = .03) of the total variance in the SLD incidence rate, with F [4, 205] = 2.62;

p = .04. Principal participation at the IST/prereferral intervention meetings was the one variable that made a significant contribution to the formula. The principal participation rate was 77.7% of meetings; however, there was a positive correlation which did not support an inverse relationship between principal participation and the SLD incidence rate.

Table 16

Multiple Regression Predicting SLD Incidence Rate from IST/Prereferral Policy, Parent Referral Policy, Principal Participation at Meetings, and Meeting Time during Contracted Hours

DESCRIPTIVE STATISTICS -

Variable	n	Mean	S.D.	Range
SLD identification rate	210	.08	.03	.05 - 1.11
IST referral policy	210	.83	.37	.45 - 1.21
Policy for parents	210	.67	.47	.24 - 1.14
Principal participation	210	77.70	29.38	48.32 - 107.08
Meeting time	210	.82	.38	.44 - 1.20

CORRELATION MATRIX -

	SLD	SQ13	SQ14	SQ26	SQ27
SLD identification rate	1.00	.04	.13	-.16	.06
IST referral policy (SQ13)		1.00	.50	.00	-.11
Policy for parents (SQ14)			1.00	.02	-.04
Principal participation (SQ26)				1.00	.05
Meeting time (SQ27)					1.00

REGRESSION predicting SLD Incidence Rate using IST Referral Policy, Policy for Parents, Principal Participation at Meetings, and Meeting Time during Contracted Hours

Model Fit	R square	Adjusted R squared
F [4, 205] = 2.62; p= .04	.049	.03

Variables in Equation

	B	SE B	β	t	p
IST referral policy (SQ13)	-.00	.01	-.03	-.33	.746
Policy for parents (SQ14)	.01	.00	.15	1.92	.057
Principal participation (SQ26)	.00	.00	-.16	-2.38	.018
Meeting time (SQ27)	.01	.01	.07	1.05	.295

The Relationship between Training Related to the Prereferral Intervention Process and Level of Implementation of the Prereferral Intervention Process

Seventy-six schools out of 136 subjects answering SQ3 (56%) reported having at least one instructional support teacher who participated in the initial IST training process when IST was first introduced to your elementary school. There were 209 principals or their designees that provided responses to SQ16. The subjects were asked to estimate the number of trainings that their instructional support teacher or prereferral intervention coordinator had participated in related to the prereferral intervention process between the school years of 2003-2004 and 2004-2005. When the principals answered with a range of trainings, a mid-range score was recorded in the Microsoft Excel database.

Sixty-six subjects (32%) reported that their instructional support teacher or prereferral intervention coordinator had not participated in any related trainings within the specified time frame. There were 80 subjects (38%) noting that their instructional support teacher or prereferral intervention coordinator had participated in between one and five trainings, 48 subjects (23%) stating that their instructional support teacher or prereferral intervention coordinator had attended more than five and less than ten trainings, and 15 subjects (7%) indicating that their instructional support teacher or prereferral intervention coordinator had participated in more than 10 trainings during this time period. Two principals estimated 50 trainings and one principal had estimated as many as 75 trainings. Given these high numbers, the respondents may not have understood that SQ16 was designed to determine the number of trainings attended by the instructional support teacher or prereferral intervention coordinator, and consequently may have reported trainings for all team participants.

There were 115 principals stating that the instructional support teacher or prereferral intervention coordinator attended trainings on curriculum-based assessments and/or DIBELS, 112 principals reported that the training was in differentiated instruction, and 71 principals shared other forms of trainings. Table 17 lists the different types of trainings.

Table 17

Frequency Table of Training Opportunities for Instructional Support Teacher or Prereferral Intervention Coordinator

	Frequency
Response to Intervention	21
Elementary student assistance program	10
Progress monitoring	9
Behavior interventions	8
District-wide IST process training	5
Functional behavior assessment	4
Instructional support conference at SRU	4
Wilson reading program	4
Legal issues related to school and IST	4
IST training at local intermediate unit	3
AIMS Web	2
AYP	2
Coaching	2
DRA training	2
ESL training	2
IST networking	2
Key Kids training	2
Project Read	2
SWEBS	2
ADHD	1
Aspergers	1
Auditory processing	1
Behavior and assessment trainings	1
Best practices through an embedded reading course	1
Children with behavior and mental disorders	1
Community resources	1
Co-teaching	1
Data-driven decision making	1
EAP training	1
Four block language arts	1
4 Sight assessments	1
Learning focused schools	1
Literature circles	1
Math and writing interventions	1
Metro 8	1

Table 17 Continued

Frequency Table of Training Opportunities for Instructional Support Teacher or Prereferral Intervention Coordinator

	Frequency
Multiple intelligences	1
Non-fiction reading strategies	1
PA literacy 4 framework	1
Performance tracker	1
Phelps assessment	1
Prereferral models	1
Three-day IST process training	1

Hypothesis 9 proposed a positive relationship between training related to the prereferral intervention process and the level of implementation of the prereferral intervention process. Table 18 shows the regression model using initial IST training, number of trainings, trainings related to different types of curriculum based assessment, differentiated instruction, and guided practice and/or ongoing supervision. The mean LOI score was 15.48. There were 53% of instructional support teachers who participated in initial IST trainings. Survey respondents indicated that on average instructional support teachers/prereferral intervention coordinators participated in 5.65 trainings during the stated time period. Eighty-one percent (81%) of the schools had participated in trainings related to CBA/CBM/DIBELS and/or differentiated instruction. When changes were being introduced to the prereferral intervention as a result of any training sessions, 74% of the schools provided guided practice or on-going supervision to staff members who were instrumental in implementing the changes.

This model accounted for about 7.5% ($R^2_{Adj.} = .075$) of the total variance in Level of Implementation of the Prereferral Intervention, with $F [5, 82] = 2.41$; $p = .04$. Participation in the initial IST training by the instructional support teacher and training related to differentiated instruction were the two variables that made a significant contribution to the formula ($\beta = -.25$, $t = -2.37$, $p = .02$; $\beta = .23$, $t = 2.20$, $p = .03$).

Table 18

Multiple Regression Predicting Level of Implementation of the Prereferral Intervention Process from Initial IST Training, Number of Trainings, CBA, Differentiated Instruction, and Supervision/Guided Practice

DESCRIPTIVE STATISTICS

Variable	n	Mean	S.D.	Range
LOI score	88	15.48	2.30	13.20 - 17.80
Initial training (SQ3)	88	.53	.50	.03 - 1.30
Number of trainings (SQ16)	88	5.65	6.42	-.77 - 12.07
CBA/CBM/DIBELS (SQ17a)	88	.81	.40	.41 - 1.21
Differentiated instruction (SQ17b)	88	.81	.40	.41 - 1.21
Supervision/guided practice	88	.74	.44	.30 - 1.18

CORRELATION MATRIX

	LOI	SQ3	SQ16	SQ17a	SQ17b	SQ19
Level of implementation	1.00	-.26	.09	.00	.24	-.03
Initial IST training (SQ3)		1.00	-.04	.12	-.05	.17
Number of trainings (SQ16)			1.00	.18	.12	.09
CBA/CBM/DIBELS (SQ17a)				1.00	-.09	.43
Differentiated Instruction (SQ17b)					1.00	.10
Guided practice (SQ19)						1.00

REGRESSION predicting Level of Implementation of the Prereferral Intervention Process using Initial IST trainings, Number of Trainings, CBA/CBM/DIBELS, Differentiated Instruction, and Guided Practice/On-going Supervision

Model Fit	R square	Adjusted R squared
F [5, 82] = 2.41; p= .04	.128	.075

Variables in Equation

	B	SE B	β	t	p
Initial IST training (SQ3)	-1.14	.48	-.25	2.37	.020
Number of trainings (SQ16)	.02	.04	.05	.44	.659
CBA/CBM/DIBELS (SQ17a)	.38	.68	.07	.56	.578
Differentiated instruction (SQ17b)	1.35	.61	.23	2.20	.031
Guided practice (SQ19)	-.25	.61	-.05	-.41	.681

The Relationship between Training Related to the Prereferral Intervention Process and the SLD Incidence Rate

Hypothesis 10 proposed an inverse relationship between training opportunities and the SLD incidence rate. Table 19 shows the regression model using initial IST training, number of trainings, trainings related to different types of curriculum based assessment, differentiated instruction, and guided practice and/or ongoing supervision. This model accounted for about 3.7% ($R^2_{Adj.} = .037$) of the total variance in the SLD incidence rate, with $F [5, 82] = 1.67$; $p = .151$. The hypothesis of an inverse relationship between the SLD incidence rate was not supported.

Table 19

Multiple Regression Predicting SLD Incidence Rate from Initial IST Training, Number of Trainings, CBA, Differentiated Instruction, and Supervision/Guided Practice

DESCRIPTIVE STATISTICS

Variable	n	Mean	S.D.	Range
Placement rate	88	.08	.03	.05 - .11
Initial training (SQ3)	88	.53	.50	.03 - 1.30
Number of trainings (SQ16)	88	5.65	6.42	- .77 - 12.07
CBA/CBM/DIBELS (SQ17a)	88	.81	.40	.41 - 1.21
Differentiated instruction (SQ17b)	88	.81	.40	.41 - 1.21
Supervision/guided practice	88	.74	.44	.30 - 1.18

CORRELATION MATRIX

	LOI	SQ3	SQ16	SQ17a	SQ17b	SQ19
Placement rate	1.00	.16	-.18	.05	.14	.07
Initial Training (SQ3)		1.00	-.04	.12	-.05	.17
Number of trainings (SQ16)			1.00	.18	.12	.09
CBA/CBM/DIBELS (SQ17a) .001				1.00	-.09	.43
Differentiated instruction (SQ17b)					1.00	.10
Supervision/guided practice (S19)						1.00

REGRESSION predicting SLD Incidence Rate on Initial IST Training, Number of Trainings, CBA, Differentiated Instruction, and Supervision/Guided Practice

Model Fit	R Square	Adjusted R Squared
F[5, 82] = 1.67; p= .151	.093	.037

The Relationship between the Practice of Systematic Data Collection and Level of Implementation of the Prereferral Intervention Process

Hypothesis 11 proposed a positive relationship between the practice of systematic data collection for decision making and the level of implementation of the prereferral intervention process. An independent samples t-test was conducted to investigate the relationship between the practice of systematic data collection for decision making and the level of implementation of the prereferral intervention process. Elementary schools that reported practicing systematic data collection (N = 180) had a mean LOI score of 15.09, as compared to a mean score of 8.97 reported by schools that did not engage in systematic data collection as part of the prereferral intervention process (N = 32). This difference was statistically significant at the 0.05 level ($t = 14.44$, $p < .01$, two-tail), supporting the hypothesis that schools that practice systematic data collection have higher levels of implementation of the prereferral intervention process as quantified by the LOI score.

A regression model was created to investigate which variables proposed as components of systematic data collection were related to level of implementation of the prereferral intervention process. Table 20 shows the regression model using the use of curriculum based assessments/measurement, use of group achievement test scores, and use of data to determine whether a student who has had a prereferral intervention should be referred for a multidisciplinary evaluation. The mean LOI score was 15.07. Ninety-eight percent (98%) of schools practicing systematic data collection used CBM/CBA/DIBELS, and 66% of schools used group achievement scores. There were 78% of respondents who indicated that the decision to refer a student to the

multidisciplinary evaluation team was based upon an assessment that is related to the IST/prereferral intervention. This model accounted for about 12% ($R^2_{Adj.}$ = .121) of the total variance in level of implementation of the prereferral intervention process, with F [1/174] = 9.15; p= .001. The hypothesis of a positive relationship between systematic data collection and level of implementation of the prereferral intervention process was supported. The two variables which made the most significant contributions were collection of curriculum based assessments and use of data to determine whether a student who has had a prereferral intervention should be referred on for a multidisciplinary evaluation (β = .24, t = 3.30, p = .001; β = .20, t = 2.72, p = .006).

Table 20

Multiple Regression Predicting Level of Implementation of the Prereferral Intervention Process from Systematic Data Collection

DESCRIPTIVE STATISTICS

Variable	n	Mean	S.D.	Range
LOI score	178	15.07	2.17	12.9 -17.2
CBM/CBA/DIBELS (SQ22a)	178	.98	.15	0.8 - 1.1
Achievement test (SQ22b)	178	.66	.47	0.2 - 1.1
MDE decision (SQ24)	178	.78	.42	0.4 - 1.2

CORRELATION MATRIX

	LOI	SQ22a	SQ22b	SQ24
LOI score	1.00	.30	.11	.28
CBM/CBA/DIBELS (SQ22a)		1.00	.05	.28
Achievement test (SQ22b)			1.00	.13
MDE decision (SQ24)				1.00

REGRESSION predicting Level of Implementation of the Prereferral Intervention Process using Curriculum-Based Assessments, Group Achievement Testing, and Data for Making MDE Referral Decision

Model Fit	R square	Adjusted R squared
F [1/174] = 9.15; p<.001	.136	.121

Variables in Equation

	B	SE B	β	t	p
CBM/CBA/DIBELS (SQ22a)	3.54	1.07	.24	3.30	.001
Achievement test (SQ22b)	.30	.33	.07	.93	.354
MDE decision (SQ24)	1.04	.38	.20	2.72	.006

The Relationship between the Practice of Systematic Data Collection and the SLD Incidence Rate

Hypothesis 12 proposed an inverse relationship between the practice of systematic data collection and the SLD incidence rate. An independent samples t-test was conducted to investigate the relationship between the practice of systematic data collection for decision making and the SLD incidence rate. Elementary schools that reported practicing systematic data collection (N = 180) had a mean percentage rate of .081% while those schools that reported no systematic data collection (N = 32) had a mean percentage rate of .083%. This difference was not statistically significant at the 0.05 level (t = .35, p = .73, two-tail), which did not support the hypothesis that schools that practice systematic data collection have a lower SLD incidence rate.

The Relationship between Level of Implementation of the Prereferral Intervention Process and SLD Incidence Rate

Hypothesis 13 proposed an inverse relationship between the level of implementation of the prereferral intervention process and the SLD incidence rate. Table 21 shows the regression model investigating the relationship between level of implementation of the prereferral intervention process and the SLD incidence rate. This model accounted for less than 1% ($R^2_{Adj.}$ = - .002) of the total variance in the percentage rate of students within the school district being identified in need of special education due to a specific learning disability, with F [1,215] = .62; p = .43. The hypothesis of an inverse relationship between level of implementation of the prereferral intervention process and SLD incidence rate was not supported.

Table 21

Multiple Regression Predicting SLD Incidence Rate from Level of Implementation of the Prereferral Intervention Process

DESCRIPTIVE STATISTICS -

Variable	n	Mean	S.D.	Range
Placement rate	217	.082	.03	.05 - .11
LOI score	217	14.130	3.11	11.02 - 17.24

CORRELATION MATRIX -

Pearson Correlation	Placement Rate	LOI score
Placement rate	1.00	-.05
LOI score		1.00

REGRESSION predicting Level of Implementation of the Prereferral Intervention Process using SLD Incidence Rate

Model Fit	R square	Adjusted R squared
F [1,215] = .62; p=.43	.003	-.002

Summary

Surveys were sent to 456 elementary schools across Pennsylvania that were assigned to cells based upon geographic location, population density, and SES of the school district in which the elementary school was located. There was a 47% return rate, but the return rate for urban elementary schools was low. The elementary principals or designees that returned their surveys represent approximately 12% of the total number of elementary schools in Pennsylvania. Eighty-two percent (82%) of these schools stated that they continued to operate an IST prereferral intervention process; however, approximately 25% of these schools did not have full-time instructional support teachers on staff either because they shared the instructional support teacher with another school or the instructional support teacher had other responsibilities. The ratio of instructional support teacher to students ranged from 100 to 1500 students.

Schools no longer employing instructional support teachers assigned these responsibilities to other individuals in the school, with the staff member most often responsible for the prereferral intervention process being the school counselor. The ratio of this prereferral intervention coordinator to students ranged from 90 to 1800. Years of teaching experience ranged from 0 to 35 years.

There were four independent variables, one mediating variable, and one dependent variable proposed in this study. The four independent variables included (1) teaching experience of the instructional support teacher/prereferral coordinator, (2) administrative support, (3) training related to the prereferral intervention process, and (4) the practice of systematic data collection. Level of implementation of the prereferral intervention process was selected as a mediating variable; however, the hypothesis that

the higher the level of implementation of the prereferral intervention process the lower the SLD incidence rate was not supported. Therefore, the model that had level of implementation of the prereferral intervention process as a mediating variable was not supported.

When level of implementation of the prereferral intervention process was treated as a dependent variable, there were some significant results reported. Elementary schools that continued to employ instructional support teachers were more likely to have higher scores for level of implementation of the prereferral intervention process than elementary schools that had reassigned the screening process to a prereferral intervention coordinator. Administrative support variables that increased the likelihood that teams implemented the prereferral intervention model included having a district policy or procedures that informed and strongly encouraged parents/guardians to refer the student for an IST/prereferral intervention process before being referred for a multidisciplinary evaluation and allotting time during the school week for the IST/prereferral team to meet during teacher contracted hours. Training variables that the increased likelihood of implementation included employing teachers who initially participated in the initial IST training and training related to differentiated instruction were the two variables that made a significant contribution to the formula. Data collection variables that increased the level of implementation included the collection of different types of curriculum based assessments (CBA/ CBM/ DIBELS) and the use of data to determine whether a student who has had a prereferral intervention should be referred on for a multidisciplinary evaluation.

CHAPTER V

DISCUSSION

This chapter summarizes results and draws conclusions about the relationships between the four independent variables for this study: (1) teaching experience of the instructional support teacher/prereferral intervention coordinator; (2) administrative support; (3) training related to the prereferral intervention process, and (4) the practice of systematic data collection, and the dependent variables, the SLD incidence rate, which is the percentage rate of students within a school district placed in special education programs for specific learning disabilities, and the level of implementation of the prereferral intervention process, which was originally conceived as a mediating variable. Included in this chapter is a discussion of the study's limitations, implications for school psychologists and other educators, and recommendations for future research.

SLD Incidence Rate as a Dependent Variable

The number of students placed in special education for specific learning disabilities was chosen as the dependent variable because placement in special education programs has been used frequently to judge the effectiveness of the prereferral intervention process (Rock & Zigmond, 2001; Hartman & Fay, 1996; Sindelar, 1992). In addition, information on the placement rate in special education for the 501 Pennsylvania school districts was easily accessed using statistical reports available on the Pennsylvania Department of Education website.

No significant relationships were noted between the four independent variables and the SLD incidence rate, with exception of one factor related to administrative

support, which was principal participation. In this case, when principals participated frequently in the IST/prereferral intervention meetings there was a higher SLD incidence rate. This finding was unexpected, and one can only speculate as to the reason. One possibility could be that the principal may become more connected with issues related to students through active participation in the IST/prereferral intervention process and may share some of the frustrations of teachers and parents or guardians that none of the interventions that have been tried have improved the student's achievement and/or behavior. The principal who occasionally has the role of Local Education Agency representative at the school may then support the decision of the multidisciplinary team to identify the student in need of special education services. By supporting this placement decision, the principal may see this action as providing a solution for frustrated regular education teachers and concerned parents or guardians.

In regards to the absence of a relationship between SLD incidence rate and the four independent variables and the mediating variable, it is possible that the method selected for defining the SLD incidence rate may not have accurately reflected the special education identification rates of the individual elementary schools. If another method had been chosen, different results may have been obtained. In this study SLD incidence rate was based upon the percentage rates reported for the entire school district instead of the individual elementary schools. Although there were many instances in which there was only one elementary school in a particular school district, larger school districts had multiple elementary schools, and quite possibly the prereferral intervention practices and multidisciplinary referral and placement rates could have varied between the individual elementary schools. Even in those cases in which there was only one elementary school

within the school district, the special education placement information provided through Penn Data also included information on students from middle schools and high schools. If placement rates could be obtained for the individual elementary schools, the results may have been quite different, especially if school districts have developed a practice of supporting students as long as possible in the regular education classroom during their elementary years, but then identified students in larger numbers once students entered the high school.

When the instructional support teams were being introduced into school districts, participating schools were expected to collect the following information: school documentation of retentions in grade, number of referrals for multidisciplinary evaluations, number of placements in special education, and number of students served by the IST. Based upon information survey responses, it appeared that a large percentage of public elementary schools collected information on the number of students referred for an IST/prereferral intervention during the school year, the number of students referred for multidisciplinary evaluations following the IST/prereferral interventions, and the number of students referred by IST/prereferral intervention teams that become identified for special education services. If elementary schools are willing to share this information or if the Pennsylvania Department of Education makes this type of information available to researchers, this would eliminate the need to rely upon school district data for the SLD incidence rate.

Another benefit of gathering information on the number of students involved in the various phases of the prereferral intervention and multidisciplinary evaluation processes is that researchers would be able to look more closely at how the prereferral

intervention process can affect referral rates and outcomes at different stages. As some researchers have suggested, a reduction in inappropriate evaluations or an increase in the numbers of students going through the prereferral intervention process may more adequately assess the value of the prereferral intervention programs than special education placement rates alone (McNamara & Hollinger, 2003).

The Relationship of Level of Implementation of the Prereferral Intervention Process and the SLD Incidence Rate

Level of implementation of the prereferral intervention process was initially selected as a mediating variable by the researcher based on the supposition that if programs were not being implemented according to what might be conceived by program developers as "best practice," then the effectiveness of the program's outcomes could be jeopardized. In this study the effectiveness of the prereferral intervention process was being judged based upon a lower SLD incidence rate. Given the aforementioned problem with choosing the SLD incidence rate for entire school district versus the individual elementary schools participating in the study, the question remains whether there is truly no relationship between these two variables or if the dependent variable was ill conceived. This question cannot be answered based upon available data, and hopefully can be answered through future research.

The researcher chose to change level of implementation of the prereferral intervention process from a mediating variable to a dependent variable in the hope of furthering our understanding of how the prereferral intervention process is operating in elementary schools across Pennsylvania since the removal of the state mandate.

Although many schools continue to report that they have an IST process, schools no longer have to be monitored and have been granted the flexibility to make any adjustments based upon their needs. Therefore, merely stating that your school has an IST program does not guarantee that previously reported positive outcomes will be obtained and schools that report no longer having IST programs may have retained enough essential practices of the IST model that they continue to obtain positive results. As some researchers have discovered (Kovaleski, Gickling, Morrow & Swank, 1999), maintaining the basic components of the IST model (e.g., regular meetings, interpersonal communication skills, etc.) was insufficient to bring about positive student outcomes (e.g., time-on-task, task completion, and increased comprehension). Schools that were collecting data systematically and helping regular education teachers with implementing recommended strategies and interventions were obtaining desired results, while those schools with low implementation or problems with treatment fidelity saw fewer improvements in time-on task, task completion, and comprehension.

The following sections discuss some of the factors that have been associated with implementation of the IST. The discussion begins with information on changes in the IST/prereferral intervention team practices that occurred in some elementary schools following the removal of the IST mandate, such as the removal of the instructional support teacher position. The subsequent sections focus upon the relationship between level of implementation of the prereferral intervention process and the teaching experience of the instructional support teacher or prereferral intervention coordinator, administrative support, training related to the prereferral intervention process, and systematic data collection.

The Relationship between the Continuation of the Instructional Support Teacher Position and Level of Implementation of the Prereferral Intervention Process

According to Bickel et al. (1999), many survey respondents believed that the effectiveness of their IST programs was attributed to having full-time instructional support teachers who could devote their time and energies to the IST process. Instructional support teachers were expected to conduct instructional assessments and classroom observations, meet with teachers to collaborate, teach individual students to develop and practice classroom strategies, model and demonstrate instructional techniques for teachers, facilitate monitoring of interventions through data collection methods, develop behavior management practices, inform staff about the IST process, and identify internal and external supports (Kovaleski, 1995). Restrictions were imposed upon the types of duties that instructional support teachers could be expected to perform beyond their IST duties because the belief was that the effectiveness of the prereferral intervention process could be seriously undermined if prereferral duties were assigned to staff members who already have full workloads (Kovaleski, 2002).

Once the IST mandate was removed, school districts were no longer required to employ full-time instructional support teachers. In this study, there were 128 out of 217 schools responding to the survey had chosen to continue to follow the IST model and employ full-time instructional support teachers. There were 40 schools that claimed to follow the IST model but no longer employed instructional support teachers, and 40 schools reported that they have transferred those duties previously performed by the instructional support teacher to a prereferral intervention coordinator or building team.

These duties had been reassigned to individuals that already had other responsibilities within the school such as the elementary school counselors.

The results confirmed that schools with instructional support teachers were more likely to implement the prereferral intervention process as originally proposed during the IST phase-in process and subsequent validation process. This result suggests that elementary schools that terminated the instructional support teacher position may have had to make changes in how their prereferral intervention process operated because the individual now responsible for coordinating the process may not have had the time to devote to the prereferral intervention process that were previously carried out by full-time instructional support teachers. This supports Kovaleski's position (2002) that the effectiveness of the prereferral intervention process could be seriously undermined if prereferral duties were assigned to staff members who already have full workloads.

Some procedures that elementary schools continued to practice even after the removal of the IST mandate included contacting parents or guardians about the IST/prereferral intervention process, inviting them to attend meetings, asking them to attend meetings, and informing them about their child's progress toward goals. These communications between home and school were practiced by 88% of the schools regardless of whether the school had a full-time instructional support teacher. Seventy-seven percent (77%) of all schools using prereferral intervention teams collected at least 5 of the following types of data to help with team decision-making: parent/teacher interviews, classroom observation, classroom graded materials, curriculum-based assessments/measurements, functional behavior assessments, and/or standardized testing information. Seventy-four percent (74%) of all the schools surveyed had instructional

support teachers/prereferral intervention coordinators who performed at least seven of these tasks: (1) interviewed teachers who refer the students, (2) collected information from teachers who provide instruction, (3) interviewed parents or guardians, (4) observed students in classrooms and/or unstructured settings, (5) conducted curriculum-based or other instructional assessments, (6) informed or invited parents or guardians to meetings, (7) facilitated the problem solving process, and (8) maintained the required paperwork. Teachers in 58% of the schools attended scheduled IST/prereferral intervention team meetings of the students they referred, carried through with interventions or strategies selected by the IST/prereferral team, collected data on student performance before and after the IST/prereferral team intervention, and served on prereferral intervention teams, if invited, even though the teacher did not make the prereferral intervention.

Those activities that had lower levels of implementation rates by instructional support teachers/prereferral intervention coordinators were related to amount and type of support provided to teachers and students and the amount and type of data collection. Fewer principals/designees reported that their instructional support teachers/ prereferral intervention coordinators demonstrated interventions in the regular education classroom, provided referred students with small group instruction or one-on-one instruction by one of the IST members outside of the regular education classroom, and did not coordinate tutor programs involving adult or student volunteers. The practice of systematic data collection also had lower levels of implementation: 31% of schools had a member of the IST/prereferral team conduct weekly assessments; 37% of schools had a member of the IST/prereferral team collect assessment information at the beginning and the end of the intervention period, 16% of schools had the classroom teacher collect pre- and post-data

information, usually test scores, grades, or checklists, and 18% of the schools did not utilize any systematic data collection to determine the success of an intervention.

These above results indicated that differences existed between elementary schools in terms of their prereferral intervention process operation. The next sections look at the relationship between components of the four independent variables and the effect these variables have on level of implementation of the prereferral intervention process.

The Relationship between Teaching Experience and Level of Implementation of the Prereferral Intervention Process

Some respondents to the Bickel et al. (1999) study reported that the skills and experience of the instructional support teacher was essential in order to have the respect of colleagues that would become involved in the IST process. The belief was that the instructional support teacher had to have sufficient expertise to be able to model classroom strategies for the regular education teacher and to provide staff development training. Those elementary schools that had reassigned the prereferral intervention process to other individuals may not believe that teaching experience was necessary in order to carry out the majority of duties previously performed by the instructional support teacher, or many of these duties were no longer considered vital to the operation of the prereferral intervention team.

The result did not support the hypothesis that instructional support teachers or prereferral intervention coordinators with less teaching experience had lower levels of implementation of the prereferral intervention process. Therefore, less years of teaching experience did not have as much of an effect on level of implementation as other factors

such as the amount of time available for prereferral intervention coordinators to devote to the prereferral intervention process.

The Relationship between Administrative Support and Level of Implementation of the Prereferral Intervention Process

Some researchers have proposed that school-wide implementation of prereferral intervention programs would not be possible without administrative support (Moore-Brown et al., 2005; Rafoth & Foriska, 2006; Sindelar et al., 1992), especially when decisions are required related to allocating resources, setting policy that students participate in a prereferral intervention process before referring students for special education eligibility testing, and encouraging staff members to obtain adequate training (Hartman & Fay, 1996). Literature on prereferral intervention teams predict that the lack of support from administration may prevent school-wide implementation of prereferral intervention programs (Sindelar et al., 1992), especially during those periods of increasing task demands and limited resources (Moore-Brown et al., 2005). However, educators are not always in agreements as to what constitutes administrative support of problem-solving teams in schools (Rafoth & Foriska, 2006; Yoon & Gilchrist, 2003).

In this study, the administrative support variable was derived from these factors: (1) ratio of students to instructional support teacher; (2) ratio of students to prereferral intervention coordinator; (3) written policy and/or procedure that requires teachers to refer a student to an IST/prereferral intervention process before students suspected of a learning disability are referred for a multidisciplinary team evaluation; (4) written policy and/or procedure that informs and strongly encourages parents/guardians to refer the

student for an IST/ prereferral intervention process before being referred for a multidisciplinary evaluation; (5) percentage of meetings attended by the elementary school principal; and (6) whether time is allotted during the school week for the IST/prereferral team to meet during teacher contracted hours.

Results did not support the hypotheses that the ratio of instructional support teacher or prereferral intervention coordinator to students was inversely related to level of implementation of the prereferral intervention process. These hypotheses were based upon the assumption that instructional support teachers and prereferral intervention coordinators working in buildings with a large student population had less time available to them to implement many of the duties previously assigned to the instructional support teacher. There may be some inherent problems in looking at overall student population to determine the ratio of students to the IST/prereferral intervention coordinators because some elementary schools may be controlling the number of students that they were willing to put through an IST/prereferral intervention and elementary schools may vary significantly according to the number of students who were performing poorly academically.

Even if the ratio were changed to consider the number of students participating in an IST/prereferral intervention instead of the number of students in the building, there were other factors related to administrative support that might have had a stronger influence on implementation. For instance, no information was gathered to assess whether the administration provided clerical assistance to assist the instructional support teacher/prereferral intervention coordinator that included scheduling appointments, making telephone calls, mailing correspondence, typing up reports, filing paperwork, etc.

Adequate clerical support would make more time available for the individual coordinating the prereferral process to carry out more important tasks and to service more children and teachers.

Also, this study did not ask questions to help identify the other types of models that schools without instructional support teachers were using, such as those that divide the responsibilities among more than one individual. For instance, the Instructional Consultation Team model (Gravois et al., 2002) has individual team members acting as case managers to individual referring teachers, while another member of the team may act as the system manager who receives the requests for assistances, schedules, and does the record keeping. Survey results indicated that there were some schools that already have evolved into sharing the prereferral intervention process among various individuals.

No significant relationship was noted between having a written policy and/or procedure that required teachers to refer a student to an IST/prereferral intervention process before students suspected of a learning disability were referred for a multidisciplinary team evaluation and level of implementation of the prereferral intervention process, but having a written policy and/or procedure that informed and strongly encouraged parents/guardians to refer the student for an IST/ prereferral intervention process before being referred for a multidisciplinary evaluation was related to higher levels of implementation. Perhaps by having a written policy and/or procedure that informed and strongly encouraged parents/guardians to refer to IST/prereferral intervention teams, the school went through the process of trying interventions and collecting data to assess the success of interventions instead of bypassing this process and relying on the traditional refer-test-place practice.

Higher principal participation at meetings was not positively related to the level of implementation of the prereferral intervention program. Overall, principals had reported frequent participation in IST/prereferral intervention team meetings, but previous research had questioned how much involvement regular education teachers want from their principals. In some instances, teachers reported being more satisfied with collaborative problem-solving when the principal was not the team leader (Sindelar et. al., 1992), but others requested more involvement by the principal when the case involved instances of aggressive, disruptive student behavior (Yoon & Gilchrist, 2003). Instead of consistent attendance by principals at IST/prereferral intervention meeting, some teachers wanted their administration to show support for the prereferral intervention process by compensating participants for their time and prioritizing professional development in those skills required to implement an effective prereferral intervention process (Doll, Haack, Kosse, Osterloh, Siemers, & Pray, 2005).

Results from this study did show that a relationship existed between having time allotted during the school week for the IST/prereferral team to meet during teacher contracted hours and level of implementation of the prereferral intervention process, which supported previous assertions that allotting sufficient consultation time during teacher contracted hours result in less criticism of prereferral intervention assistance programs (Yoon & Gilchrist, 2003; Ross, 1995), and potentially greater willingness on the part of teachers to participate and implement components of the prereferral intervention.

The Relationship between Training and Level of Implementation of the Prereferral Intervention Process

Researchers have been interested in the relationship between training and implementation of new programs or procedures. Some believe that without adequate training for team members in the collaboration and evaluation procedures, the prereferral intervention process may be less effective (Vaughn et al., 2003; Safran & Safran, 1996; Nelson & Smith, 1991; Fuchs and Fuchs, 1988), and training in isolation may not be as effective as training that includes on-going coaching in the applied setting to allow for transfer of skills (Chafouleas, Riley-Tillman, & Eckert, 2003; Gravois, Knotek, & Babinski, 2002). Others have stated that the type of training provided for educators can affect implementation of new procedures. The likelihood of teachers implementing new practices increased when guided practice and performance feedback were combined with training (Mortenson & Witt, 1998; Rosenfield & Robinson, 1985). If educators believed that they lack knowledge, skills, or resources, they were less likely to implement strategies suggested by prereferral intervention teams or consultants (Lane, Madahvi, & Borthwick-Duffy, 2003).

Training was an important component of the Pennsylvania IST Initiative, with formal trainings scheduled for the instructional support teacher and other team members in collaboration, instructional assessment, instructional adaptation, interaction patterns, and elementary student assistance. Local intermediate units were responsible for follow-up training and support with guided practice activities onsite. Networking sessions were available among instructional support teachers from surrounding schools. When the IST mandate was removed, availability of networking and training opportunities related to the

IST or prereferral intervention process became an issue for some elementary schools, especially when instructional support teachers retired or decided to return to the regular education classroom.

In this study, to assess the types of training that was available for instructional support teachers or prereferral intervention coordinators, the following factors were considered: (1) whether the instructional support teacher participated in the initial IST training; (2) the number of trainings related to the prereferral intervention process accessed by the instructional support or prereferral intervention coordinator; (3) training attended that focused on curriculum-based measurements or DIBELS; (4) training in differentiated instruction; and (5) guided practice and supervision opportunities.

The results revealed that no significant relationships were noted between level of implementation of the prereferral intervention process and the number of trainings related to the prereferral intervention process accessed by the instructional support or prereferral intervention coordinator, training attended that focused on curriculum-based measurements or DIBELS, or guided practice and supervision opportunities. There were significant relationships observed between the initial IST training by the instructional support teacher and training related to differentiated instruction and the level of implementation of the prereferral intervention process.

According to subject responses, 62 schools continued to have an instructional support teacher who participated in the initial IST training when IST was first introduced to their elementary school. However, the survey question related to initial training may have been misinterpreted by some respondents. The question was written to try to obtain information as to which instructional support teachers were involved in the initial

trainings during the five year phase-in periods. Given the number of years that 13 instructional support teachers held this position, the years would not have extended back to the initial phase-in years. Therefore, the training that these 13 instructional support teachers accessed quite possibly occurred after the IST mandate was removed, but information was unavailable as to whether those schools introducing IST in their schools followed the same training components as those that were provided to the other elementary schools in their district that was part of the IST implementation phase.

A possible explanation for the significant relationship between training in differentiated instruction and level of implementation of the prereferral intervention process might be related to core beliefs related to differentiated instruction, such as recognizing that different teaching strategies may be required based upon individual student needs. Teachers who adopted this philosophy may have been more willing to work with others to identify student's strengths and weaknesses and to adopt different methods of instruction and assessment to help the struggling student.

The Relationship between Systematic Data Collection and Level of Implementation of the Prereferral Intervention Process

Literature has linked systematic data collection to the effectiveness of prereferral intervention teams (Weishaar, Weishaar, & Budt, 2002) because data-based decision making can help teachers judge whether a student's degree of need extends beyond what is available in the regular education classroom (Kovaleski, 2002; Flugum & Reschly,1994). Through the practice of collecting ongoing assessments to inform and document effectiveness of instruction (Shapiro & Elliot, 1999), teachers are able to

decide whether to continue with particular instructional methods or to change their curriculum and instructional strategies. Too often the lack of systematic data collection does not produce the information that teachers and teams require to determine effectiveness of the intervention (Reschly, 1988).

The *Survey of the Prereferral Intervention Team Process* included a question as to whether the IST/prereferral intervention team at the elementary school collected data on a systematic basis to assess need for an IST/prereferral intervention. There were 180 schools reporting that systematic data collection was used to assess need for an intervention, and 32 elementary schools did not engage in systematic data collection as part of the prereferral intervention process. Results indicated that schools practicing systematic data collection had higher scores on the *Level of Implementation of the Prereferral Intervention Process Rubric*. However, the survey did not collect more precise information on the data or criteria selected to assess need for an IST/prereferral intervention.

In this study, the relationship between systematic data collection and level of implementation of the prereferral intervention process was based upon the method of data collection and whether the decision to refer a student to the multidisciplinary team was based upon an assessment related to the IST/prereferral intervention teams. Methods of data collection included curriculum-based assessments/measurements/DIBELS or achievement test results. The purpose of the data that was being collected was to assist teachers in determining the type of intervention(s) to try with the referred student individually and/or to make adaptations to the regular education classroom setting or curriculum.

The lack of a significant relationship between group achievement scores and level of implementation of the prereferral intervention process was not surprising given curriculum-based assessment research that stated that once a year testing does not provide sufficient information on a frequent enough basis to judge the benefit of an intervention or instruction (Shapiro, 2000). However, given the increasing emphasis on school accountability through the use of high stakes testing (e.g., state proficiency tests) that are administered once a year in a particular subject area depending upon grade placement, schools may consider using these data to help in the identification of a larger number of students that may require more strategic or intensive intervention in a subject area not necessarily to judge the effectiveness of an intervention. Once these students are identified schools may then decide to change from using building teams as a method of delivering and documenting a prereferral intervention to the development of a procedure designed to bring all of its students to levels of proficiency (Bahr & Kovaleski, 2006).

A significant relationship was noted between the collection of curriculum-based assessments/measurements/DIBELS measures and level of implementation of the prereferral intervention process. This finding also was not surprising given the degree of importance that was placed on instructional assessment during the IST phase-in period. Determining the student's instructional level was considered an essential step in deciding which instructional materials provided enough challenge for the at-risk student without creating too much frustration (Gickling & Rosenfield, 1995; Gickling and Thompson, 1985).

In the years since the Pennsylvania IST Initiative, several advances have been made in the area of data collection with the focus on identifying academic difficulties as

early as possible instead of waiting for students to fail before exposing the child to more strategic or intensive interventions. For instance, when students are identified in the younger years as at-risk readers, extra or varied instruction can be offered in these areas to improve those essential skills related to competent readers (Good, Gruba, and Kaminski, 2002). Shapiro (2000) has argued that schools need to change from identifying whether or not a student has some type of processing deficit and instead try to identify what types of skills may be deficient and provide mediation in those areas. Also, by screening all students instead of relying upon working with only those students that have been referred by teachers or parents, more information is available on how students are benefiting from the instruction that is occurring within a classroom or the entire school. If a large number of students are not making adequate progress, then the entire curriculum may need to be revamped instead of focusing upon what some individuals perceive as problems within the student. The collection of curriculum-based assessments can aid teachers in evaluating individual student progress and help teachers identify needed classroom modifications (Shapiro, Angello, & Eckert, 2004).

Another significant relationship was observed between level of implementation of the prereferral intervention process and the use of data to help in the decision to refer the student for a multidisciplinary evaluation based upon a prereferral intervention assessment measure. This result would suggest that some schools were using their data for educational decision-making versus just collecting information on reporting purposes. The subjects were not asked what types of curriculum-based assessments were collected and/or what intervention assessment measure, norm, or benchmarks were typically used

at the school, which would increase our level of understanding as to the benefits of data collection.

Limitations of the Study

The survey method of collecting data was selected given the large number of subjects chosen for the sample that extended across a large geographic area. This method of investigation relied heavily upon self-report data, which was not followed up with any procedure for checking the accuracy of the subjects' responses. Respondents may have answered certain questions to put their prereferral intervention process in a more positive light. Plus, principals with very busy schedules may have decided to guess at information related to the instructional support teacher/prereferral intervention coordinator rather than taking the time to verify professional experience or recent trainings of these staff people. In addition, the survey asked principals to provide information on participation in trainings that were available in the previous school year. Quite possibly, when information on prior trainings was recorded, principals may have inadvertently included more recent trainings, especially since some of the trainings reported, such as Response to Intervention, have only recently been made available to Pennsylvania educators. Finally, principals or their designees were asked to estimate the percentage of prereferral intervention team meetings that they were able to attend. Given the number of schools that indicated principal participation rates of over 95%, principals may have reported high percentages to present themselves in a more positive light and may not always be cognizant of the number of times that they were present for the entire meeting without having to be called out to address other issues. Since this study did not include

information related to the reliability and validity of the survey instrument, the above reflections are hypotheses that could be addressed in future studies.

Another potential problem with the survey method was that subjects appeared to have difficulty following all of the instructions on the *Survey of the Prereferral Intervention Process,* which often appeared to be related to not reading questions in their entirety. For instance, when reporting on previous professional experience, one of the subjects wrote down in the "other" category a position that was already listed as one of the options, which raises the question as the accuracy of responses. In addition, since subjects were given the option of skipping sections based upon how they responded to particular questions, the assumption was made that the subjects would understand parts of the question, such as systematic data collection. If subjects were uncertain, they could have read ahead through the section to check their comprehension; however, there is no guarantee that this self-checking occurred.

When the *Survey of the Prereferral Intervention Process* was developed, the researcher overlooked the possibility that the instructional support teacher/prereferral intervention coordinator might coordinate the IST/prereferral intervention team process for more than one elementary school. In many instances, school principals wrote extra information on the survey to reflect this fact; however, the possibility exists that there may have been a few instances in which the IST/prereferral intervention coordinator had the increased responsibility of extra schools that might not have been reported. An additional oversight occurred in identifying who within the school coordinated the prereferral intervention process when the school no longer employed an instructional support teacher. Several respondents addressed this oversight by checking several staff

positions. The question then arises as to whether other subjects would have responded differently to this question if the team option had been listed.

Another limitation of this study is that the subjects who elected to participate may have made this decision based upon the fact that their prereferral intervention process in functioning well, while those principals that chose not to complete and return the survey might have not wanted to share the fact that their school was not employing a prereferral intervention process. Since current state regulations state that a screening process that meets minimal requirements should be in place in all elementary schools, principals from schools that are not following through with this directive might be hesitant to make this type of admission even when promises of confidentiality of individual results are promised.

An external threat of validity to the study was the low participation rate of elementary school principals of urban area schools. Lack of participation does not allow for generalizations about the prereferral intervention processes in Pennsylvania urban elementary schools. No information was available as to whether low participation of urban elementary school principals reflected the absence of a prereferral intervention process, dissatisfaction with the prereferral intervention process, less time available for urban principals to complete surveys, or whether the survey reached the intended party.

Implications for School Psychologists

School reform movements have been stressing accountability, which has resulted in school-wide or systems-level changes that involve closer scrutiny of curriculum content and delivery (Moore-Brown et al., 2005; Fuchs & Fuchs, 2002; Tilly, 2002;

Shapiro, 2000). Researchers are advocating progress monitoring to determine the effectiveness of instructional methods for individual teachers (Danielson, Dolittle, & Bradley, 2005; Shapiro & Elliot, 1999); however, not all elementary teachers have the training in data collection to help with educational decision-making (Lane, Madahvi, & Borthwick-Duffy, 2003).

When the IST initiative was first introduced to school districts, each school district was required to employ an instructional support teacher who was trained in curriculum-based assessment and different methods for providing support to referring teachers and students. Survey results show that there are some instructional support teachers who continue to hold this position and continue to collect the data and provide prereferral services; however, not all schools have instructional support teachers, or if they do have instructional support teachers, training opportunities have not been offered consistently, which leaves school districts facing the dilemma of who would be best qualified to support teachers and students.

Many school psychologists reportedly have the training to act as consultants to teachers and school-based teams (Canter, 2006). However, as evidenced in this study, few school psychologists have been assigned the responsibility of coordinating the prereferral intervention process when the school does not employ an instructional support teacher to carry out these responsibilities. The survey revealed that even those schools that had evolved into a building level prereferral intervention team approach did not always have a school psychologist on their team.

A higher percentage of elementary schools that have eliminated the instructional support teacher position have delegated many of the previous responsibilities of operating

the IST or prereferral intervention team to the elementary school counselor. In addition, building level prereferral intervention teams typically involve their school counselor in the process. This study did not investigate why so few school psychologists have been assigned the coordination or participation in prereferral intervention teams; however, future studies may provide more insight into this matter.

One possible reason why school psychologists are not more actively involved in the prereferral intervention process is that school personnel are more familiar with school psychologists who are primarily involved in testing and recommending special education placements. School psychologists should consider being more active role in educating school district personnel on what they can bring to the prereferral intervention process (Canter, 2006; Vanderwood & Powers, 2002). If school psychologists are successful in convincing administrators and teachers on how they could contribute to the prereferral intervention process, then the school psychologists would have the opportunity to demonstrate their skills and share their knowledge base to a much larger segment of the school population.

Recommendations for Future Research

The question was raised as to whether the school district special education placement rate information adequately reflected placement practices of the individual elementary schools. If this study were to be replicated with a different method of identifying SLD incidence rate such as obtaining this information from the individual elementary schools, then the question would be answered as to whether a relationship does exists between SLD incidence rate and the four independent variables. However,

studies should extend beyond relying on special education placement rate too frequently to evaluate the outcome of prereferral intervention programs results because other potential benefits could be overlooked such as increasing the number of students serviced through a prereferral intervention, minimizing the need for multidisciplinary referrals, and providing information for multidisciplinary evaluations on those interventions that worked and which skill deficits still remain (Hartman & Fay, 1996).

Although the survey method of collecting information on the prereferral intervention processes in Pennsylvania following the removal of the IST mandate was selected for this study, as stated earlier, there were some problems inherent in this type of research, especially when no procedure was put into place to verify the accuracy of responses. Future research could include other methods of documenting school practices such as file reviews and observations.

Instead of trying to obtain information from a large number of elementary schools, another type of study may combine qualitative and quantitative approaches to understanding how prereferral intervention or problem solving teams operate within schools. Instead of using SLD incidence rate as the dependent variable, a study could be designed that targets those schools that have already been identified as having higher and lower placement rates in special education, especially in the specific learning disability category. Questions that were not included in this study could address the type of model operating in the schools that no longer have instructional support teachers and whether elementary schools are moving away from the prereferral intervention process to a problem solving process that is available to a larger number of students and teachers. It also would be helpful to know how the different responsibilities are distributed among

team members and if there is adequate clerical support. Also, since school psychologists have been described as individuals that are trained in data collection for educational decision making, it would be interesting to know whether school psychologists actively participate on building level teams, and if they do not, why school psychologists are not asked to participate. Another question that would be of interest is how much time typically is spent beyond hours specified in teacher contracts on activities related to the prereferral intervention process or other type of problem solving team, which could be verified through time logs. This would increase our understanding of how much time is necessary to provide the extra support. The quantitative portion of the study would involve identifying those variables that appear to be common among schools with high identification rates and those schools with lower identification rates, and then following up with a study investigating those variables that could be expanded to include more schools that are randomly selected.

Future research could also involve contacting schools with high SLD incidence rates and trying to introduce some of the practices that may be missing from their prereferral intervention process that have been associated with best practice of prereferral intervention or problem-solving building teams such as using data collection for educational decision-making. Success could be determined according to whether more students are receiving services or if there is a decrease in the number of referrals to multidisciplinary teams that do not result in need for special education services.

Future research is necessary to look more closely at the potential benefits of the prereferral intervention process and to identify those variables that are most closely linked to the successful operation of prereferral intervention teams. Because the

Pennsylvania Department of Education no longer mandates an instructional support program, school districts will continue to make decisions about what prereferral intervention components work best for their schools given their students and resources, and continued research may provide the information that schools need to formulate policies and procedures.

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APPENDIX A

Sample Cover letter for First Mailing

Dear Elementary Principal:

Over five years have passed since the State mandate was removed that an instructional support team (IST) operate in at least one elementary school within every Pennsylvania school district. Many elementary schools chose to continue with their IST process after the mandate was removed; however, some elementary schools decided to put into action another form of prereferral intervention process. Limited research exists on prereferral intervention teams, and little is known about which variables have the strongest effect on positive academic outcomes for the difficult-to-teach student. This research, which is being conducted by Joanne Laverty, a doctoral student at Indiana University of Pennsylvania, Indiana, Pennsylvania, consists of a survey, which is designed to investigate the relationships between a number of variables related to the prereferral process. Dr. Joseph Kovaleski, the Director of the School Psychology Program at Indiana University of Pennsylvania, is supervising this research. This project has been approved by the Indiana University of Pennsylvania Institutional Review Board for the Protection of Human Subjects (Phone: 724/357-7730).

The enclosed survey should take less than 20 minutes to complete. If you think that another staff member would be more knowledgeable about how the prereferral intervention team process operates in your school, please forward the survey to this individual. For mailing purposes, each survey has been assigned an identification number to help the researcher determine which surveys have not been returned. The name of the individual completing the survey is not associated with any of the findings since the results are reported only as group data. Your responses will be kept confidential.

Please complete and return the survey in the enclosed, stamped envelope by **April 12, 2006.** Your return of a completed survey implies consent.

If you have any additional questions, please contact either of the names listed below. We appreciate your cooperation and support by completing the enclosed survey. **We want to emphasize that it is important that you answer as many items on the survey that you can even if your school no longer uses the IST model.** If you choose not to participate, please return the incomplete survey in the enclosed envelope.

Sincerely,

Joanne Laverty, Doctoral Candidate
Indiana University of Pennsylvania (IUP)
Educational & School Psychology
246 Stouffer Hall
Indiana, PA 15705
(724) 357-2316
jrlaverty@yahoo.com

Joseph Kovaleski, D.Ed., Professor
Indiana University of Pennsylvania
Educational & School Psychology
246 Stouffer Hall
Indiana, PA 15705
(724) 357-3785
Jkov@iup.edu

APPENDIX B

Follow-up Post Card (14 Day)

Dear Elementary School Principal,

Approximately two weeks ago a survey on the prereferral intervention team process was sent to your school. The principal was given the option of answering the questions based upon his or her knowledge of the process or to forward the survey onto the individual who would be the most knowledgeable about how the school's prereferral process operates at the elementary level.

If your survey has already been returned, I would like to thank you for your participation. If you have not had the opportunity to complete the survey, I hope you will be able to do so as soon as possible because your input is important. However, I need to state again that your participation is voluntary.

If you did not receive the survey or if it has been misplaced, please email me at jrlaverty@yahoo.com or call me at (570)673-5196, and I will make certain that another survey is mailed to you immediately.

Thank you again for your assistance.

Sincerely,

Joanne Laverty
Doctoral Candidate
Indiana University of PA
Educational & School Psychology
Stouffer Hall
Indiana, PA 15705

APPENDIX C

Follow-up Cover Letter (30 days)

Name of non-responding principal
Street Address
Town, State Zip

xxxxxxxxxx

Dear Elementary School Principal,

I am writing because, as of today, I still have not received your completed *Survey of Prereferral Intervention Teams*. I realize that this is probably a busy time for you, but I would appreciate being able to include the information related to your school's prereferral intervention process in my group results.

As stated previously, research is limited on how prereferral intervention teams operate in Pennsylvania, and this study could provide additional information as to which variables might be most related to positive academic outcomes for children who have academic and/or behavioral problems.

Please consider returning your survey as soon as possible. If you have already done so, thank you for your participation. Once again, despite my continued solicitation for you to participate in this study by submitting a completed survey, your participation is strictly voluntary.

If you have misplaced your copy, please email me at jrlaverty@yahoo.com or call me at (570)673-5196 so that I may mail you a new copy.

Thank you for your time and consideration.

Sincerely,

Joanne Laverty
Doctoral Candidate
Indiana University of PA
Educational & School Psychology
Stouffer Hall
Indiana, PA 15705

APPENDIX D

Survey of the Prereferral Intervention Team Process

SURVEY OF THE PREREFERRAL INTERVENTION TEAM PROCESS

Identify the position of the individual who completed this survey. ***Check the appropriate box below.***

____ Elementary school principal

____ Instructional support teacher

____ Prereferral intervention coordinator

____ Counselor

____ Other: _____

Part 1.			
1.	The Instructional Support Team (IST) process initially was a state mandated prereferral process. A problem-solving model was followed to assist difficult-to-teach students by introducing interventions in the regular education classroom. The instructional support teacher coordinated the process, collected different forms of assessments to determine instructional level, and worked with other team members to try to meet student's academic/behavioral needs without a special education placement. Although IST is no longer a state-mandate program, my elementary school continues to operate an IST prereferral process. ***Circle Yes or No.***	Yes	No
2.	My school continues to employ at least one instructional support teacher. ***Circle Yes or No.***	Yes	No
	If your answer is "No" to Question #2, skip the next 4 questions and go to question #7.		
3.	Do you have at least one instructional support teacher who participated in the initial IST training process when IST was first introduced to your elementary school? ***Circle Yes or No.*** **If you answered "Yes," identify the number of years in which your instructional support teacher has held this position in your elementary school. _____ years**	Yes	No
4.	What is the estimated ratio of elementary students to instructional support teacher(s)? . 1 instructional support teacher to _____ students		
5.	How many years of **teaching experience** does your instructional support teacher have?(If there is more than one instructional support teacher employed in your elementary school, identify the years of teaching experience for the teacher with the **most** experience.) _____ years of teaching experience		
6.	What professional experience has your instructional support teacher had prior to becoming the IST teacher? If you have more than one IST teacher, provide information on the teacher employed in the position the **longest.** *Check one or more of the following positions.*		
	____ Regular education teacher ____ Remedial education teacher (e.g., Title I teacher, reading specialist) ____ Special education teacher	____ Other:	
	If you have answered Questions 4 through 6, skip the next 3 questions and go to question #10.		
7.	The prereferral intervention process is a system in which students with academic or behavioral difficulties are screened before they are referred for a formal special education evaluation. If you do **not** have an instructional support teacher, who is responsible for coordinating prereferral intervention services in your elementary school? ***Check the appropriate box below.***		
	___ Regular education teacher ___ Remedial education teacher (e.g., Title I teacher, reading specialist) ____ Counselor	____ School psychologist ____ Other: (Identify position):	

8.	What is the estimated ratio of elementary students to the staff member(s) responsible for the prereferral intervention? 1 prereferral intervention coordinator to _____ students		
9.	How many years of teaching experience does your prereferral intervention coordinator have? (If there is more than one prereferral intervention coordinator, identify the years of teaching experience for the coordinator with the most experience.) _____ years of teaching experience		
Part 2.			
10.	Check all of the following activities that the instructional support teacher/prereferral intervention coordinator is conducting on an ongoing basis in your elementary school. *Check all that apply.* ____ Interviews teachers who refer students ____ Collects information from the majority of teachers who provide instruction ____ Interviews parent(s) or guardian(s) ____ Observes student in classroom and/or unstructured settings ____ Conducts curriculum-based (instructional) assessments ____ Informs and invites parent(s) or guardian(s) to meetings ____ Facilitates the problem solving process ____ Maintains required paperwork		
11.	Check all types of support the referring classroom teacher would expect from the instructional support teacher/ prereferral intervention team coordinator. ***Check all that apply.*** ____ Contacting other teachers providing instruction to the referred student ____ Demonstrations in the classroom as to how suggested interventions can be integrated as part of regular classroom routine ____ Providing referred student with small group instruction outside of the regular classroom ____ One-on-one instruction of the referred student outside of the regular classroom by the IST teacher or other member of the team ____ Coordination of tutorial program involving adult or student volunteers		
12.	In what ways are the majority of regular education classroom teachers actively involved in the elementary school IST/prereferral intervention process? ***Check all that apply.*** ____ Refer students having academic or behavior difficulties in the regular education classroom ____ Attend scheduled IST/prereferral intervention team meetings of students they refer ____ Carry through with interventions or strategies selected by the IST/prereferral team ____ Collect data on student performance before and after the IST/prereferral team intervention ____ Serve on IST/prereferral intervention teams, if invited, even though the teacher did not make the IST/prereferral intervention referral		
13.	Does your elementary school have a written policy and/or procedure that require teachers to refer a student to an IST/prereferral intervention process before students suspected of a learning disability are referred for a multidisciplinary team evaluation? ***Circle Yes or No.***	Yes	No
14.	Does your elementary school have a written policy and/or procedure that informs and strongly encourages parents/guardians to refer the student for an IST/ prereferral intervention process before being referred for a multidisciplinary evaluation? ***Circle Yes or No..***	Yes	No

15.	Check all the ways the parent(s) or guardian(s) are involved in the IST/prereferral intervention process. ____ Contacted orally or in writing of their child's referral for an IST/prereferral intervention ____ Invited to attend IST/prereferral intervention meeting ____ Asked to work with the team to identify effective strategies or interventions ____ Informed of progress toward goals established by IST/prereferral team ____ Notified orally or in writing of IST/prereferral intervention outcomes		
Part 3.			
16	To the To the best of your knowledge, approximately how many training sessions has your instructional support teacher/prereferral intervention coordinator participated in **related to the prereferral intervention process** during the past **two years** (2003-2004, 2004-2005 school years)? ***Fill in your best estimate as to the number of trainings.*** Number of training sessions: _____		
	If the instructional support teacher/prereferral intervention coordinator did not participate in any training sessions, skip the next 3 questions to Question #20.		
17.	Which training sessions related to the prereferral intervention process was the instructional support teacher/ prereferral intervention coordinator able to access after the IST mandate was removed? ***Check all that apply. Please ask your instructional support teacher/prereferral intervention coordinator if you do not have access to this information.*** ___ Curriculum-based assessment/measurement/DIBELS (Dynamic Indicators of Beginning Emergent Literacy) ___ Differentiated Instruction (Learning how to adapt existing curricula to meet needs of individual students) ___ Other. ***List other trainings related to the prereferral team intervention process not mentioned above.***		
18.	How did the IST teacher/prereferral intervention coordinator access this training? ***Check all that apply.*** ____ In-service workshop(s) presented in your district ____ Training conducted at local Intermediate Unit or PATTAN sites. ____ Other: Explain _____		
19.	If changes were made in your school's prereferral intervention process as a result of any training sessions, were staff members who were instrumental in implementing the changes provided with guided practice or on-going supervision? ***Circle Yes or No.***	Yes	No
Part 4.			
20.	Does the IST/prereferral intervention team at your elementary school collect data on a systematic basis to **assess need** for an **IST/prereferral intervention**? ***Circle Yes or No.***	Yes	No
	If you circled "No" to #20, skip questions 21 through 25. Go to Question # 26.		
21.	The IST/prereferral intervention process includes collecting comprehensive and varied data on a regular basis **(in at least 80% of the cases)** about the referred student. ***Check all assessments that are collected on a consistent basis.*** ____ Information from parent/teacher interviews ____ Classroom observations ____ Classroom graded materials ____ Curriculum-based assessments/measurements ____ Functional behavior assessments ____ Standardized testing information		
22.	Check all methods of ongoing data collection used by the IST/prereferral intervention team to help determine what type of intervention(s) to try with the referred student individually and/or to make adaptations to the regular education classroom setting or curriculum. *Check all that apply.* ____ Curriculum-based assessment/measurement/DIBELS measurements ____ Group achievement test scores **(This does not include PSSA scores.)** ____ Other: _____		

23.	Check how progress toward IST/prereferral intervention team goals is measured. ***Check all that apply.*** ____ A member of the IST/prereferral team (not the referring teacher) conducts a weekly assessment. ____ A member of the IST/prereferral team (not the referring teacher) collects assessment information at the beginning and the end of the intervention period. ____ The classroom teacher collects pre- and post-data information, usually test scores, grades, or checklists. ____ There is no systematic data collection conducted to determine the success of an intervention.		
24.	Is the decision to refer a student to the multidisciplinary evaluation team based upon an assessment that is related to the IST/prereferral intervention? ***Circle Yes or No.***	Yes	No
25.	Check the types of information listed below that your elementary school continues to collect annually, although this information is no longer required by the State. *Check all that apply.* ____ Number of students referred for an IST/prereferral intervention during a school year ____ Number of students referred for a multidisciplinary evaluation following the IST/prereferral intervention ____ Number of student referred by the IST/prereferral intervention team identified to be in need of special education services ____ None of the above		
Part 5.			
26.	Estimate the percentage of the IST/prereferral intervention team meetings that the principal was able to attend during the past year (2004-2005 school year). _____ % of meetings were attended by the elementary principal		
27.	Is there time allotted during the school week for the IST/prereferral team to meet during teacher contracted hours? ***Circle Yes or No.***	Yes	No

Please contact Joanne Laverty at jrlaverty@yahoo.com if you have any questions related to this questionnaire. Your cooperation in providing information for this study is sincerely appreciated.