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Prereferral assistance teams: The impact of implementing problem-solving on referrals and accommodations.

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Prereferral Assistance Teams: The Impact of Implementing Problem-Solving on Referrals and Accommodations

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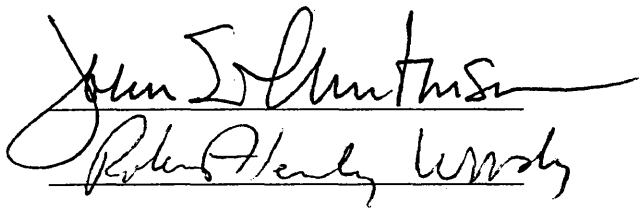

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Abstract

Prereferral assistance teams have been implemented in many schools to provide a formal process of monitoring interventions in regular education before referring students to testing for special education. The main purpose of the current study is to determine if using the problem-solving process during prereferral assistance team meetings is more effective than not using problem-solving during team meetings. The results from the study indicated that prereferral assistance teams that use problem-solving are more successful in reducing the number of referrals to psychoeducational testing and in increasing the number of specific and appropriate accommodations developed during prereferral assistance team meetings. The use of problem-solving during prereferral assistance team meetings, however, did not increase the number of students who were referred for psychoeducational testing and qualified for special education services compared to the results from prereferral assistance teams that did not use problem-solving. The current study supports the need to include the steps involved in problem-solving during prereferral assistance team meetings to reduce the number of referrals to psychoeducational testing and to remediate behavioral and academic problems in regular classrooms.

Prereferral Assistance Teams: The Impact of Implementing Problem-Solving on Referrals and Accommodations

Introduction

Teachers are instrumental in determining the educational placement of their students. If a teacher identifies an academic or behavioral problem that is believed to be beyond the scope of the regular education classroom, the student may be referred for psychoeducational testing. The process of deciding whether or not to test a child to determine eligibility for special education services has changed over the last twenty years. Specifically, the decision has moved from using the refer/test/place model, where professionals test the child to determine if he or she is eligible for services without attempting prior interventions, to the use of Prereferral Assistance Teams (Graden, Casey, & Christenson, 1985). The purpose of Prereferral Assistance Teams is to assist teachers in implementing accommodations to help children having difficulties in school (Nelson, Smith, Taylor, Dodd, & Reavis, 1992).

Considerable research has been conducted investigating Prereferral Assistance Teams. This research guided the current investigation and will be reviewed here. The legal issues will be described in the context of their influence on changing how we determine special education need. Next, issues involving dissatisfaction with the refer/test/place model will be discussed. In addition, emphasis on prevention of problems and environmental causes for behavioral and academic problems will be explained. Most importantly, Prereferral Assistance Teams will be described thoroughly including their characteristics and benefits, and problem-solving within the context of Prereferral Assistance Teams will be explained including the benefits

of using problem-solving during team meetings. Finally, a contrast will be made between teams that use the problem-solving process and teams that do not use the process.

Literature Review

Legal influences

The process of supporting teachers and helping students with academic and behavior problems has changed substantially since the passage of Public Law 94-142 (Education for All Handicapped Children Act). Public Law 94-142 established that children with handicaps had the right to receive a free and appropriate education. A later revision of the law, Public Law 105-17 (now called Individuals with Disabilities Education Act or I.D.E.A.), mandated that before referrals could be made to determine special education eligibility, accommodations must be attempted in the regular classroom (Rosenfield & Gravois, 1999). As a result of previous special education law and more recent special education law in I.D.E.A., Prereferral Assistance Teams have been implemented in many states to insure that accommodations are attempted before psychoeducational assessment can be considered. The number of state and local regulations and guidelines requiring that interventions be developed, implemented, and evaluated as part of a Prereferral Assistance Team process, prior to consideration of special education eligibility increased considerably in the 1980's (Reschly, 1988). According to Rosenfield and Gravois (1999), 13% of states have mandated teams and 67% of states have teams that are in operation on a voluntary basis.

Changes in Service Delivery

Changes in special education law and services occurred for several reasons: dissatisfaction with the referral process to psychoeducational assessment; a focus on preventative services; and a changing emphasis on what causes academic and behavioral problems. Each of these reasons for changes in the law and in services will be discussed in the following sections. Emphasis will be placed on how the changes relate to the creation of Prereferral Assistance Teams.

Dissatisfaction with the Special Education Referral Process. The special education referral process involves several steps. First, a referral is made to a school psychologist; either by a teacher, parent, student or administrator; for the student to receive psychoeducational testing. The testing outcome is used to determine whether the child qualifies for services and if the student has a need for special education services. Dissatisfaction with this special education referral process has impacted the laws affecting school districts. Two primary concerns have emerged in the process of identifying children for special education: (1) possible over-identification of children who qualify for special education services; and (2) accommodating the needs of mainstream populations while also meeting the needs of the special education students (Fuchs & Fuchs, 1989). Over-identification occurs when children who have academic and or behavioral difficulties are declared eligible for services when, in fact, they would benefit from services provided in the regular education classroom, and do not need special education services. Mainstream populations include children with handicaps who are integrated into regular education classrooms (Erchul & Martens, 1997).

New special education laws have been developed to help solve the over-identification problem by decreasing the number of average children who are misclassified as mildly mentally handicapped. Algozzine and Ysseldyke (1981) investigated the eligibility, classification, and placement decision making process and found that 51% of individual decision-makers declared students who had abilities in the average range eligible for services while using the refer/test/place process. This is a significant problem, because the assessment process to determine eligibility is very time consuming and expensive. In addition, a referral decision is probably the most important decision affecting a child's educational process. Approximately 75% of referred students are placed subsequently in special education (Algozzine, Christenson, & Ysseldyke, 1982).

The converse of the over-identification problem also exists; a growing number of children who have special needs do not qualify for special education services (Chalfant, Pysh, & Moultrie, 1989; Reynolds, Wang, & Walberg, 1987; Zins, Graden, & Ponti, 1988). Special education programs are organized to help children who meet certain eligibility criteria. The children who are not eligible for services do not have a system in place to assist teachers and help students with behavioral and academic difficulties. As a result, more emphasis is placed on eligibility determination than on determining effective interventions (Reschly, 1988). Christenson, Ysseldyke, and Algozzine (1982), for example, conclude that the, "process is wasteful and frustrating when it is decided the child should not receive services because no suggestions are made as to what strategies should be used in the regular classroom." (p. 344).

An additional issue is that when a child is referred for psychoeducational testing and he or she does not qualify, little information is gained on how to help the child learn in the classroom. Furthermore, if the teacher attempts to provide academic or behavioral accommodations, the accommodation process is often not well documented, which can lead to other problems such as a greater number of referrals and over-identification. The effectiveness of the accommodation can have a direct bearing on whether the teacher refers the child for psychoeducational evaluation (Ysseldyke, Pianta, Christenson, & Wang, 1983). Generally, teachers believe that students who are referred will be placed in special education (Christenson et al., 1982).

New special education laws were also developed to help accommodate mainstream populations by increasing and improving the interventions made in the regular education classroom to meet the needs of a diverse population of students (Fuchs, Fuchs, & Bahr, 1990). Students who were not referred for special education services would also be able to benefit from accommodations made in the classroom to help referred students. For example, effective environmental interventions, such as the teacher praising students for good work, is effective for all the students in the classroom. In summary, a change from the traditional refer/test/place process was needed to help eliminate over-identification and to involve more professionals in the accommodation and referral processes in regular education classrooms.

Prevention. Another change that has contributed to new special education law has been the focus on prevention of academic and behavioral problems. Special education funding cannot meet the needs of an increasing population of students

(Zins, Curtis, Graden, & Ponti, 1988). More students are referred for psychological testing every year, so it is important for professionals to become aware of behavioral and academic difficulties as soon as possible. Interventions should be in place when problems first occur to help decrease the need for more costly programs at a later time and to increase the chances that the child will benefit from the interventions (Algozzine et al., 1982). Prevention has been shown to be effective in reducing the number of children who later need special education services and need more assistance as adults (Graden et al., 1985).

Perception of Etiology. Another recent change that has affected special education law is the perception of the etiology of both academic and behavioral problems. The medical model, which has traditionally been followed in both the educational and medical fields, defines the problem as residing within the child. When a child has problems in school, it is the child who needs to be changed. Now, rather than targeting the child as the problem, environmental influences are examined along with the child's characteristics. For example, the problem may be found in the interaction of the child's characteristics and the educational setting (Rosenfield & Gravois, 1996).

There are several examples of environmental influences on learning. The environment can have an impact on a child's learning when the child is expected to complete homework during school and the child has difficulty understanding verbal instructions. A possible accommodation for this child would involve writing directions on the chalkboard and then having the child repeat the directions back to the teacher.

The process of providing an environment for learning often involves assisting particular students in the regular classroom. Rather than sending the child to another classroom to learn, the teacher examines the behavior of the child and determines what accommodations could help the child succeed in the regular classroom. General education also can be a less negatively stigmatizing setting for students at risk for failure (Fuchs & Fuchs, 1989; Rosenfield & Gravois, 1996).

Dissatisfaction with the special education referral system, an emphasis on prevention, and a change from looking at the child for academic and behavioral problems to examining the child's environment have all led to the creation of new special education law. Legal influences have subsequently moved from the separation of special education and regular education to the importance of cooperation between services to ameliorate behavior and learning problems (Reschly, 1988).

Prereferral Assistance Teams

One major strategy developed to help solve the problems associated with the refer/test/place model and to help general education deal effectively with student diversity is Prereferral Assistance Teams. Typically, teams use a systematic effort to assist teachers in the education of students experiencing difficulties in school (Nelson et al., 1992).

The Prereferral Assistance Team is just one of many forms of an intervention assistance process. Other names for the process include Teacher Assistance Teams (TAT) and Mainstream Assistance Teams (MAT). The TAT was one of the earliest

intervention assistance models used (Friend & Cook, 1996) and was developed by Chalfant, Pysh, and Moultrie in 1979 (Sindelar, Griffin, Smith, & Watanabe, 1992). The TAT was created to help regular education teachers solve problems in a group and involved the use of a problem-solving model, which will be explained later. The goal of the TAT included helping teachers meet the needs of difficult-to-teach students in their classrooms. A multidisciplinary consultative model was developed later by Graden, Casey, and Christenson in the mid-1980's with the goal of preventing inappropriate special education placements and providing assistance to special education teachers. Fuchs, Fuchs, and Bahr (1990) expanded on this model and formed Mainstream Assistance Teams, which include a consultant, teacher, and the student.

Prereferral Assistance Teams have several goals: (1) collect data to help develop and evaluate interventions, (2) reduce the number of referrals to psychoeducational assessment, (3) encourage prevention, and (4) focus on ecological reasons for behavior (Zins, Curtis, Graden, & Ponti, 1988). The Prereferral Assistance Team process is consistent with the least restrictive doctrine in I.D.E.A. (Fuchs & Fuchs, 1989). Educators are required to attempt to accommodate all students in the least restrictive and most normal setting as possible (Peterson & Casey, 1991; Fuchs & Fuchs, 1989).

Prereferral Assistance Team Process

The Prereferral Assistance Team process is defined as a support system used for solving problems in the regular education classroom. The teams are designed to provide assistance to teachers and to reduce the number of referrals to special

education (Ross, 1995). The Prereferral Assistance Team process occurs before a student may be referred for psychoeducational testing. The process generally involves the use of a team of two or more professionals such as school psychologists and/or counselors, regular education teachers and special education teachers who review the child's records, observe behavior, examine class work, and incorporate academic and or behavioral interventions or accommodations in the classroom.

Unfortunately, in some school districts the Prereferral Assistance Team process is not well defined and, therefore, services vary considerably from one school to another (Rosenfield, 1992). Typically, a referral is first made to the coordinator who schedules the team meetings. The coordinator insures that the teacher completes a referral sheet, which includes demographic information and behavioral and or academic concerns. The initial team meeting involves talking about the problems and discussing interventions for the student. The consultant will often review the child's record and come to the classroom to observe the child, both to assist the teacher and to help the team develop intervention ideas. Ideally, the team incorporates effective Prereferral Assistance Team techniques: defining the problem, brainstorming interventions, setting goals, and defining tasks. The coordinator assists in the intervention implementation if needed and helps monitor the child's progress.

Benefits

The benefits gained from any educational team process are evaluated by determining if the process addresses an important problem, operates in an efficient manner, and achieves effective results (Maher & Bennett, 1984). The first important problem that Prereferral Assistance Teams help to solve is the number of referrals to

psychoeducational assessment. Previous research on Prereferral Assistance Teams has revealed that the process is effective in decreasing assessment referrals (Chalfant et al., 1989; Rosenfield, 1992). The Prereferral Assistance Team process also provides assistance to regular education teachers so that students remain in the least restrictive classroom (Flugum & Reschly, 1994). Assistance teams indirectly help other children in the classroom who may benefit from classroom intervention techniques.

In addition, the use of Prereferral Assistance Teams can increase the number of children served within regular education and help prevent inappropriate placements in special education (Graden et al., 1985; Zins, Graden, & Ponti, 1988). Many children receive help from the Prereferral Assistance Team process and are never referred for psychoeducational assessment (Fuchs, 1988). For example, Chalfant, Pysh, and Moultrie (1989) showed that using the Prereferral Assistance Team process can decrease the number of students referred for psychological testing by more than 50%. Also, Zins, Curtis, Graden, and Ponti (1988) chose to name the process the "intervention assistance program" because it is a better definition of the goals of system, and because referral and assessment may not take place. The process can provide services to more students while reducing the number of students referred to special education (Rosenfield, 1992).

Additional benefits of Prereferral Assistance Teams have been identified. First, teams of professionals contribute their knowledge individually to help solve problems so teachers can meet the needs of all students (Whitten & Dieker, 1995). The system also increases educational options, includes more efficient use of

resources, and teachers are less likely to believe that children in need of assistance can be served only through special education (Christensen et al., 1982). According to Chalfant, Pysh, and Moultrie (1989), teachers gain confidence in the knowledge they already have and in their intervention skills.

Types of Referrals. The reasons for referrals to Prereferral Assistance Teams can be classified into three distinct categories: academic problems, behavioral problems or a combination of both. Academic referrals can include difficulties with reading decoding, reading comprehension, written expression, basic mathematics facts, or mathematics applied problems. Many children are referred for mild disabilities such as the possibility of a learning disability or having speech and language concerns. Behavioral referrals typically include problems with staying on task, following directions, aggression, social skills, and withdrawal. Lloyd, Kauffman, Landrum, and Roe (1991) examined referral records of 382 students to look at the reasons for the referrals for special education. Referrals typically included either one (39%) or two (35%) concerns. Results indicated that the concerns include a break-down of academic or behavioral problems.

Accommodations. When determining what accommodations will be made in the regular education classroom to help these children succeed, the reasons for referral are important. The accommodations are viewed by the team as interventions to help students remain in the least restrictive environment without placement in special education (Nelson, Smith, Taylor, Dodd, & Reavis, 1991). Accommodations, which are also called interventions, include modifications in the regular education classroom environment created to help a child with either academic or behavioral

problems (Flugum & Reschly, 1994). The terms accommodations and interventions are interchangeable, because the definition of the words are the same.

A study by Schaefer (1998) examined the reasons for referrals and whether or not the referral problems were addressed by the accommodations used during the Prereferral Assistance Team process. Schaefer reviewed the referral records of students in grades one through six, including the 1990 to the 1997 school years, from two school districts in the Midwest. Student files consisted of 81 males (61%) and 50 females (39%). Both the reasons for referrals and the accommodation plans were examined. The referrals were categorized as academic, behavioral or a combination of both academic and behavioral concerns. The accommodations were categorized to determine whether or not they matched the reasons for referral to the Prereferral Assistance Team. The accommodations were classified as either academic, behavioral, or a combination of both. Appropriate accommodations were defined as a match between the reasons for the referral and the accommodations. For example, if the referral was academic, the accommodation must reflect an academic intervention. Academic referrals had the greatest amount of consistency between the reasons for referral and the match of accommodations chosen to address the problems. However, the overall results from the study revealed that the teams were not able to provide accommodations that were consistent with the problems that were presented (X^2 = .27, NS).

Schaefer also examined the specificity of the accommodation. Specific accommodations give a clear indication of what intervention will be in place to remediate the behavioral or academic concerns. Another chi-square analysis showed

that the specificity of the accommodation was affected by the year of referral (X^2 = .21, $p<.01$). However, an informational evaluation showed that the number of specific accommodations did not increase over time.

Problem-Solving

Problem-solving is a critical component of the Prereferral Assistance Team process (Gutkin & Curtis, 1990). Problem-solving is defined as a series of steps that are used to resolve educational and behavioral concerns instead of or prior to referring children to formal psychoeducational assessment for possible special education placement (Chalfant et al., 1989). Problem-solving involves the following steps: defining the problem in concrete, behavioral terms; analyzing the possible environmental or contextual situations that may be increasing the problem; brainstorming possible accommodations; choosing among the alternative strategies; specifying the consultant and consultee responsibilities; implementing the strategy; monitoring the child's progress; and implementing a new accommodation if necessary (Gutkin & Curtis, 1990).

The accommodation chosen must be well defined. For example, "the child will receive help in mathematics" is not well defined. However, "the child will review single digit multiplication and division problems with flash cards, once a day for ten minutes, with a parent volunteer" is a specific accommodation. Analyzing the environment involves looking for possible contextual variables that could be impacting the child's performance. For example, the student may have difficulty with reading decoding and has not had enough exposure to basic sight words. Brainstorming interventions involves each team members' input on some effective

strategies such as using a parent volunteer to review basic sight words on a daily basis. Time is allowed to brainstorm several ideas before the team chooses one or more accommodations. Next, the team decides who is going to follow through with the accommodation and who is going to collect the data to see if the accommodation is working. Follow through involves assisting the teacher in implementing the interventions if needed and helping with data collection.

The team meets again to discuss what improvements were made. The team looks at the data collected to determine the level of success for the intervention. For example, the student who has trouble reading basic sight words may be able to read only five out of fifty words from a sight word list. The teacher and the team decide that an acceptable level of performance would be for the student to be able to read forty of the fifty words in four weeks. If the team determines that the child has not met an acceptable level of performance, other strategies are examined and a different accommodation is implemented. Only after the second accommodation has been implemented for at least a few weeks does the team consider psychoeducational assessment. The decision is based on the data collected during the interventions and the level of acceptable performance. If the child has met the level of acceptable performance, the child is not referred to psychoeducational assessment. If the child has not met an acceptable level or has not shown improvement, the child is referred for psychoeducational assessment.

Benefits of Using Problem-Solving. The problem-solving steps provide additional benefits to the effectiveness of Prereferral Assistance Team meetings. The benefits include providing appropriate accommodations, documenting what

accommodations have been attempted and monitoring the accommodations by using data based decision making.

The first benefit of using the problem-solving process during Prereferral Assistance Team meetings involves providing appropriate accommodations or what is sometimes called treatment integrity. Treatment integrity involves the appropriateness of the intervention and the quality of the implementation (Sindelar, et al., 1992). To explain appropriateness of interventions further, Bahr (1994) and Mamlin and Harris (1996) found that at least 97% of accommodations developed from a prereferral assistance process were either instructional modifications or behavior management procedures. The appropriateness of the behavioral or instructional accommodation includes determining if the intervention chosen matches the behavior or behaviors of concern. For example, if the concern is an academic problem, the intervention chosen should be an academic intervention rather than a behavioral intervention.

Treatment integrity is also affected directly by procedure compliance, because well designed interventions using quality problem-solving processes encourage the development and implementation of appropriate interventions. Therefore, the degree of treatment integrity is related to Prereferral Assistance Team outcomes (Gresham, 1989).

The second benefit involves issues surrounding the use of accommodations within the regular education classroom: either not implementing accommodations at all or not monitoring accommodations both before and after they begin. Some regular education teachers may not implement an accommodation to help students succeed in

the regular education classroom before referring them for psychoeducational assessment. This can occur even after the teacher has presented a student at team meetings. The problem-solving process involves using data based decision making as a part of the accommodations that are made in the regular education classroom. Therefore, teachers are required to follow through with the accommodation plan and provide data that the accommodation was effective or was not effective. In addition, one member of the team follows up with the teacher to insure that the accommodation has been made and data is being collected.

The third benefit of using the problem-solving process involves determining if a student has met an acceptable level of performance by using data based decision making. Data based decision making is a critical component in determining if a student should be referred for psychoeducational testing and involves deciding if the accommodation is working by making a comparison of the behavior of concern both before and after the accommodation has been implemented (Flugum & Reschly, 1994). If the student has met a predetermined acceptable level of academic or behavioral performance, the student is not referred for psychoeducational testing.

In summary, the benefits of using problem-solving during Prereferral Assistance Team meetings include the appropriateness of the interventions, documentation of the accommodations, and using data based decision making.

Comparison of Teams With and Without Problem-Solving. A study by Short and Talley (1996) examined the effect of Teacher Assistance Teams (TAT) on the number of referrals to psychoeducational testing and the number of children referred to testing who qualified for special education services. Schools with Teacher

Assistance Teams who had received formal training on the problem-solving process were compared to schools that did not have formal teams. The results showed that the number of referrals to psychoeducational testing and the number of children who qualified for services did not differ significantly between schools with and without Teacher Assistance Teams. The researchers did not examine the effects of using the problem-solving process on the appropriateness or specificity of the accommodations chosen during team meetings. In addition, the research involved comparing separate schools to one another rather than examining the same schools both before and after formal training in the problem-solving process occurred. Research involving the same schools provides more control on other extraneous variables such as the level of administrative support and the same staff members on the team both before and after the training has occurred (Short & Talley, 1996).

Little research is available to show that current Prereferral Assistance Teams that use the current problem-solving process are effective (Myles, Simpson, & Ormsbee, 1996). Also, questions remain as to whether the use of problem-solving within the prereferral process leads to a further reduction in the number of children who are referred for psychoeducational assessment as opposed to using Prereferral Assistance Teams without a well-defined system of problem-solving. According to Shaefer (1998), the hypothesis that assistance teams that use the problem-solving process will continue to decrease the number of special education referrals for psychoeducational testing over the course of eight school years grouped in two-year dyads was not supported. However, there was no mention of when the school districts had training in the use of the problem-solving process.

Zins, Curtis, Graden, and Ponti (1988) claim that it takes two to three years to create a successful Prereferral Assistance Team program and integrate it completely. However, research is not available on how long it takes to integrate a program change when schools are already using a prereferral assistance process that does not include a systematic problem-solving process. Also, research is not available on the effectiveness of the Prereferral Assistance Teams that have just begun to use the problem-solving process (Myles et al., 1996). Some new programs need more than one year to stabilize (Maher & Bennett, 1984). In addition, beneficial effects may be apparent for a limited amount of time due to the novelty of the program or due to stable characteristics.

Summary and Conclusion

The present study will compare the effectiveness outcomes of a Prereferral Assistance Team process that does not use formal problem-solving to a Prereferral Assistance Team process that does use the steps involved with problem-solving. In addition, the specificity and appropriateness of the accommodations developed during team meetings from both processes will be compared to each other. Practitioners and researchers need to know what benefits are gained from Prereferral Assistance Team meetings that use problem-solving. This information will help determine if the Prereferral Assistance Team process implemented in a school district solves eligibility and accommodation concerns in the schools.

Proposed Study

Based on the literature review, the problem-solving process has considerable support but several questions remain unanswered. One question that remains unanswered is if the problem-solving process increases the percentage of children who are referred for testing and also qualify for special education services. Specifically, the problem-solving process needs to be evaluated in terms of its effectiveness and the appropriateness and specificity of the accommodations that are developed. Therefore, the present study expanded on the research conducted by Schaefer (1998) and examined Prereferral Assistance Team outcomes before and after problem-solving training. This study is unique because the effect of implementing problem-solving will be examined within one school district and will involve comparisons before and after training in problem-solving.

As previously stated, the purposes of Schaefer's study were twofold. First, she examined whether the specificity and appropriateness of accommodations developed during team meetings increased over time. Second, the study investigated whether a decrease would occur in the number of students referred to psychoeducational testing over time. The current study utilized Schaefer's methodology to investigate if the problem-solving process would result in improvement in reducing the number of psychoeducational referrals and increasing the percentage of children who were referred and qualify for services. In addition, this study analyzed the appropriateness and specificity of the accommodations that are developed during Prereferral Assistance Team meetings. Data were analyzed involving a comparison between the school year before problem-solving training

occurred and two years after the training when the problem-solving process had been well established.

Again, according to Zins, Curtis, Graden, and Ponti (1988), it takes at least two to three years to integrate a new process in a prereferral team completely. An increase in effectiveness and an increase in the amount of appropriate and specific accommodations is expected for several reasons: the problem-solving process insures that the problem addresses specific behaviors or academic concerns; the entire team develops interventions to match the concerns; and data based decision making occurs to aid in the decision of whether or not to refer a child to testing for special education. In addition, the procedures and roles for the team members and teachers are well defined. Without the problem-solving process, there is a lack of clarity in the goals of the Prereferral Assistance Team meetings.

Based on the literature review, the following hypotheses were examined in the study:

Hypothesis 1: The Prereferral Assistance Team process that includes problem-solving will reduce the number of referrals to psychoeducational assessment. A decrease will be shown comparing the most recent year of implementing the process with the problem-solving model, that has been in place for two school years, to the last school year that the Prereferral Assistance Teams did not use the problem-solving model.

Hypothesis 2: The Prereferral Assistance Team process that includes problem-solving will increase the percentage of children who are referred for

psychoeducational assessment and qualify for services. Again, there will be an increase shown using the most recent year of using the problem-solving process compared to the last school year that the teams did not use the problem-solving model.

Hypothesis 3: The percentage of appropriate accommodations used will also increase comparing the last year of using the Prereferral Assistance Team process without problem-solving to the most recent year of using the problem-solving process during team meetings. Appropriate accommodations included a match between the behavioral or academic concern and the intervention chosen; that is, an academic concern should have an academic intervention, a behavioral concern should have a behavioral intervention, and a mix of both academic and behavioral concerns should have interventions that address both issues.

Hypothesis 4: The percentage of specific accommodations will also increase comparing the last year of using the Prereferral Assistance Team process without problem-solving to the most recent year of using the problem-solving process during team meetings. Specific accommodations involve a clear indication of what interventions will be used.

Method

Participants and Setting

The three schools in the present study were elementary schools, kindergarten through sixth grade, currently served under a Special Education Cooperative in one school district. The three schools had a total of 1,398 students with 727 males and

671 females during the 1995-1996 school year and a total of 1,417 students with 732 males and 685 females during the 1998-1999 school year. Demographics included 79% Caucasian, 14% African American, 4% Hispanic, 3% Asian and 1% Native American according to data from the school district. In addition, gender data analyses indicated that during the 1995-1996 school year, 69.0% of referrals to Prereferral Assistance Teams were males and 31.0% of referrals to teams were females. During the 1998-1999 school year, 60.8% of referrals to Prereferral Assistance Teams were males and 39.2% of referrals to teams were females.

The data collected from the Prereferral Assistance Team meeting forms included all new referrals to the team. No re-evaluations were used. The data from the 1995-1996 school year for referrals to psychoeducational testing included: 52% learning disability referrals, 37% gifted referrals, 7% speech and language referrals, 3% mentally handicapped referrals, and 1% other health impaired referrals. The data from the 1998-1999 school year for referrals to psychoeducational testing included: 50% learning disability referrals, 38% gifted referrals, 7% speech and language referrals, 2% mentally handicapped referrals, and less than 1% occupational therapy referrals. The research by Schaefer (1998) did not include gifted referrals.

The three schools have used a Prereferral Assistance Team process for fourteen years. During the beginning of the 1996-1997 school year, two psychologists who worked in the elementary schools in the district trained the teachers and coordinators to use the problem-solving model. Before this training, the professionals on the teams did not have a systematic team process. Any training in the team process that occurred before the 1996-1997 school year occurred informally

and did not include the problem-solving process. All three of the schools had Prereferral Assistance Teams, but there were no set schedule or goals for the meetings except to discuss children who would be referred for psychoeducational testing. The problem-solving steps of defining the problem, brainstorming and using data based decision making were not followed. Interventions were developed often without follow-up or without setting a desired level of performance.

The two psychologists who did the problem-solving training worked in the elementary schools. The training took place at the beginning of the 1996-1997 school year. The teams were taught the steps in problem-solving and worked through fictitious examples of children who could be discussed at team meetings. The training occurred during two in-service days. No specific paperwork was used for the training. The trained participants in the problem-solving steps asked the teams to take notes during the meetings. Each school has at least half of the trained staff still participating in team meetings; and the two school psychologists who did the training still work in those schools, and they also participate in the meetings. The school psychologists work with the coordinators to insure that the problem-solving steps are followed.

The teams have been following the problem-solving process since the fall of 1996 and no further training has been conducted on the problem-solving model. Currently, each coordinator is the guidance counselor at the three schools. Each team has six members including one special education professional, five regular education teachers, and the counselor. In addition, each school psychologist participates in the team meetings. The regular education teacher notifies the child's parents that the

child is being discussed at the Prereferral Assistance Team meeting. Parents are not included in the meetings. After the meeting, the coordinator informs the parents of the accommodations that will be implemented and how the parent can assist the teacher in providing the accommodations. The teams had the same composition of professionals during the 1995-1996 school year through the 1998-1999 school year.

For the schools entered in the study, the Prereferral Assistance Team process currently begins with a teacher presenting a student with behavioral, academic or combined behavioral and academic problems at the team meeting. The referring teachers are required to complete a referral form that asks about the behavior or academic area of concern. The coordinator at the school reviews the form and arranges a team meeting. The teacher making the referral attends the meeting. The team meetings are held after school on a predetermined day of the week. At the meeting, team members define the problem, develop hypotheses, brainstorm to come up with interventions to assist the child, and agree on the person who will be responsible for interventions and monitoring. All team members participate in the brainstorming process to develop possible accommodations. No specific resources are used for the brainstorming process. The final decision of what accommodation will be made rests with the teacher, because he or she will be implementing the accommodation in the classroom. After at least four weeks of intervention, the team reconvenes to discuss the child's progress, and the team determines whether the child has made adequate progress. Three outcomes occur as part of this process: the intervention remediates the problem to a successful level determined by the team and the teacher; additional interventions are warranted; or the child is referred for

psychoeducational assessment to determine if the child may qualify for special education services.

Respondents

School professionals involved in coordinating the Prereferral Assistance Team process in a Midwestern school district were asked to fill out surveys during the spring of the 1998-1999 school year (see Appendix A). Each prereferral coordinator at the three kindergarten through sixth grade elementary schools, kept records on the number of Prereferral Assistance Team referrals he or she received and the number of cases that were referred for psychoeducational assessment and qualified for services, as part of school requirements. The coordinators are also required to keep records on the Prereferral Assistance Team meetings on separate team meeting forms (see Appendix B). The information collected during the meetings included the reasons for the referral and the accommodations that were developed and implemented. The completed meeting forms were given to the researcher or pulled from the special education files so the researcher could complete the data collection information forms (see Appendix C).

Data from the 1995-1996 school year, which was the last year of using a Prereferral Assistance Team process without systematic problem-solving, was collected along with data from the 1998-1999 school year. The most recent school year was examined because research shows that it takes at least two years for a new preassessment process to be implemented and effective fully (Zins, Curtis, Graden, & Ponti, 1988).

Surveys were placed in the coordinators' mailboxes. Respondents were allowed two weeks to complete and return the surveys to the researcher. All of the surveys were received within two weeks.

Data Collection and Coding

One data collection form, the survey, was given to the coordinators at each school after the 1998-1999 school year (see Appendix A). The survey included questions about the number of children referred to the team for the first time, the number of children who were referred for psychological testing and the number who qualified for services from both the 1995-1996 school year and the 1998-1999 school year.

The next form was completed by the researcher by examining all the team meeting forms from the 1995-1996 school year and the 1998-1999 school year (see Appendix B & C). The researcher completed only the first five items: the school year, an identification number, gender, reason for referral to the team, and the accommodations chosen. Four copies of each prereferral data collection information page were made, so that the raters could complete the coding information separately. The referrals were coded by assigning a "1" for behavioral referrals, a "2" for academic referrals, and a"0" for combination referrals including behavioral and academic concerns (see Appendix D). They were also coded by assigning a "S" for a specific accommodation and a "NS" for a non-specific accommodation. Finally, they were coded with a "M" if the accommodation and the reason for referral were a match, a "N" if they were not a match, and a "P" if they were a partial match. A

partial match was defined as an accommodation that only addressed a behavioral or academic concern, when concerns were noted with both academics and behavior.

Interrater reliability was determined by training four individuals to verify the consistency in the coding of the data in three areas: the type of referral, type of accommodation, and the specificity of the accommodation. The four individuals completed the coding of the information from the prereferral data collection information pages (see Appendix C). Two of these individuals determined the interrater reliability. Once reliability was determined, any differences were discussed and consensus was reached if differences occurred (see Appendix D for instructions given to raters to code the data from the data-collection information pages). The interrater reliability for the current study was 94.8%.

Data Analysis

Separate analyses were conducted to determine whether a significant difference existed between the effectiveness of Prereferral Assistance Teams who did not use problem-solving to teams that did use problem-solving. A chi-square analysis for independent groups was utilized to determine if there was a significant difference between the percentage of children who were referred to psychoeducational testing comparing the 1995-1996 school year to the 1998-1999 school year. A chi-square analysis for independent groups was also utilized to compare the percentage of children who qualified to receive special education services comparing the 1995-1996 school year to the 1998-1999 school year. Finally, a chi-square analysis was used to compare the number of appropriate accommodations for the 1995-1996 school year to the 1998-1999 school year; and a chi-square analysis was used to compare the

number of specific accommodations for the 1995-1996 school year to the 1998-1999 school year.

Hypothesis 1 analysis addressed the number of students brought to the Prereferral Assistance Team that were referred for psychoeducational assessment comparing the two school years. During the 1995-1996 school year, 77.83% of children who were brought to the team meetings were referred for psychoeducational testing. During the 1998-1999 school year, 63.51% of children who were discussed at team meetings were referred for psychoeducational testing.

Hypothesis 2 analysis addressed the number of children that were referred for psychoeducational assessment and qualified to receive special education services comparing the 1995-1996 school year to the 1998-1999 school year. During the 1995-1996 school year, there was a 70.89% accuracy rate on the number of children who were referred for testing and qualified to receive services. During the 1998-1999 school year, there was a 70.21% accuracy rate on the number of children who were referred for testing and qualified to receive services.

Chi-square analyses were also used to address Hypotheses 3 and 4 involving the accommodations chosen compared to the reason for referral and the specificity of the accommodations. Both analyses included comparing the 1995-1996 school year to the 1998-1999 school year.

Hypothesis 3 analysis addressed the match between the accommodations chosen and the reason for referral. In order for the referral and accommodation to be considered a match, they must address the same concern. For example, a behavioral

concern of a child displaying off-task behavior should include an accommodation that addresses this behavioral problem to be considered a match.

Hypothesis 4 analysis addressed the specificity of the accommodations chosen. In order for the accommodation to be specific, a plan must be developed that is well defined. For example, an accommodation for a child displaying off-task behavior could be asking the child to self-monitor their off-task behavior by using a timer.

Results

The results from these chi-square analyses either confirm or do not confirm the hypotheses that there are significant differences between the results from the 1995-1996 school year and the 1998-1999 school year in: the number of referrals to psychoeducational testing, the number of children who qualify for services, the number of appropriate accommodations, and the number of specific accommodations.

Hypothesis 1: It was hypothesized that there would be a decrease in the number of children referred to psychoeducational testing when looking at the referral rates during the 1995-1996 school year compared to the 1998-1999 school year.

The results indicated that there was a decrease in the number of children referred for psychoeducational testing from the Prereferral Assistance Team comparing the 1995-1996 school year to the 1998-1999 school year (see Tables 1 & 2). Chi-square analyses compared the percentage of children referred to psychoeducational testing during the 1995-1996 school year and the 1998-1999 school year. Results indicated significant differences in referral rate comparing the 1995-1996 school year to the 1998-1999 school year, X^2 (1, N = 351) = 8.67, $p < .01$.

The hypothesis that a decrease in referrals occurred comparing the 1995-1996 school year to the 1998-1999 school year was supported.

Hypothesis 2: It was hypothesized that there would be an increase in the number of children referred to psychoeducational testing who also qualified for special education services during the 1995-1996 school year compared to the 1998-1999 school year.

The results indicated that there was not an increase in the number of children referred to psychoeducational testing who also qualified for special education services during the 1995-1996 school year compared to the 1998-1999 school year (see Table 2). A chi-square analysis compared the data from the two different school years. Results indicated no significant differences in the number of children who were referred for testing and qualified for services comparing the 1995-1996 school year to the 1998-1999 school year, $X^2 (1, N = 252) = p > .01$. Thus, hypothesis 2 was not supported.

Hypothesis 3: It was hypothesized that there would be a significant increase in the number of matches between the reason for referral and the accommodations chosen during Prereferral Assistance Team meetings when looking at data from the meetings during the 1995-1996 school year compared to the 1998-1999 school year.

The results from the 1995-1996 school year indicated that 47.2% of the reasons for the referrals to the Prereferral Assistance Team matched the accommodations chosen, 39.0% of the referrals to the Prereferral Assistance Team did not match the accommodations chosen, and 14.0% of the referrals to the Prereferral Assistance Team were a partial match with the accommodations chosen.

For referrals made during the 1998-1999 school year, 72.3% of reasons for referrals to the Prereferral Assistance Team matched the accommodations chosen, 19.0% of the referrals to the Prereferral Assistance Team did not match the accommodations chosen, and 8.8% of the referrals to the Prereferral Assistance Team were a partial match to the accommodations chosen. Results of the chi-square analysis were significant for a difference between the two school years, X^2 (2, N = 328) = 21.39, p <.01 and supported the hypothesis that the number of matches between the reason for referral and the accommodations chosen increased when comparing the 1995-1996 school year to the 1998-1999 school year (see Table 2).

Hypothesis 4: It was hypothesized that there would be a significant increase in the number of specific accommodations developed during Prereferral Assistance Team meetings when analyzing data from the meetings during the 1995-1996 school year compared to the 1998-1999 school year.

For the accommodations developed during Prereferral Assistance Team meetings during the 1995-1996 school year, 55% of accommodations were specific and 45% of accommodations were not specific. For the accommodations developed during Prereferral Assistance Team meetings during the 1998-1999 school year, 71.6% of accommodations were specific and 28.4% of the accommodations were not specific. The result of the chi-square analysis indicated a significant difference between the 1995-1996 school year and the 1998-1999 school year, X^2 (1, N = 328) = 9.57, p <.01. Thus, the results supported the hypothesis that the number of specific accommodations was higher for the 1998-1999 school year than the 1995-1996 school year (see Tables 3 & 4).

Discussion

The current study investigated whether or not the use of problem-solving during the prereferral assistance process would increase the effectiveness of Prereferral Assistance Team meetings. The hypotheses and findings will be discussed in the following sections followed by suggestions for practitioners in using the results of this study.

Hypothesis 1: The results from this study revealed a significant difference between the referral rate for psychoeducational testing comparing the 1995-1996 school year to the 1998-1999 school year. The referral rate was lower during the 1998-1999 school year and, therefore, supported the hypothesis that the referral rate decreased after three years of using the problem-solving steps in the Prereferral Assistance Team process. Research by Shaefer (1998) indicated that there was a decrease in referrals to psychoeducational testing over the course of eight school years, with data grouped in two-year dyads, in teams who used problem-solving. However, the decrease in referral rate was not statistically significant. The schools included in Shaefer's research on Prereferral Assistance Teams used the problem-solving process during team meetings every year that data was collected for the study. Therefore, although there was a decrease in the amount of referrals over time, it may not have been significant because the same problem-solving process was being used every year that data was collected. In the current research study, problem-solving was not used in the 1995-1996 Prereferral Assistance Team meetings. A comparison between the 1995-1996 school year and the 1998-1999 school year that

included problem-solving did reveal a significant difference in the referral rate to testing

In addition, the current research study included several gifted referrals while Schaefer's study did not include any gifted referrals. Accommodations for children who have above average academic skills are often based on permanent products such as research studies rather than a process of learning new skills or behaviors. It may be easier to determine if these children need to be referred on to psychoeducational assessment.

One of the goals of the Prereferral Assistance Team process is to assist more students, while referring fewer students to psychoeducational testing and consequently special education (Rosenfield, 1992). Previous research has shown that the Prereferral Assistance Team process is effective in reducing the number of students who are referred for testing (Chalfant et al., 1989). Prereferral Assistance Teams that included the problem-solving steps during the 1998-1999 school year were effective in reducing the referral rate to psychoeducational testing further than the Prereferral Assistance Teams that did not use problem-solving during the 1995-1996 school year.

A possible reason why a decrease in referrals occurred may be the use of systematic data based decision making as part of the problem-solving process. Making the process more systematic may lead to better interventions and, therefore, fewer referrals to special education. With problem-solving at least one of the team members, often called the consultant, assists the teacher with interventions and monitoring the success of the interventions. The problem-solving process insures that

an intervention has been implemented and data are collected to measure effectiveness. In addition, the academic or behavioral problem could be corrected before special education is needed with the implementation of problem-solving. The student is referred to testing for special education only if the intervention has not led to an acceptable level of behavioral or academic performance.

In addition, some of the problem-solving steps may lead to better interventions that help to alleviate problems. The steps of defining the problem, allowing time to brainstorm interventions, and data based decision making assist the team in focusing on the specific problem when developing an intervention. Brainstorming allows the whole team to be involved in the decision of what intervention would be the most beneficial to remediate the problem. Data based decision making involves using interventions that will reveal whether or not there was progress in reducing the behavior or academic concern.

Finally, another reason the referral rate to special education was lower during the 1998-1999 school year may be that the team members changed their philosophy of why students are referred to Prereferral Assistance Team meetings. During the 1995-1996 school year, teachers may have only referred students who they believed really needed to be tested for special education. However, during the 1998-1999 school year, the teachers may have believed that the Prereferral Assistance Team helped to assist in reducing academic and behavior problems within regular education classrooms, without referrals to testing. Thus, the philosophy behind the purpose of Prereferral Assistance Teams, rather than the implementation of problem-solving,

may be the reason why the referral rate decreased comparing the 1995-1996 school year to the 1998-1999 school year.

Hypothesis 2: The hypothesis that the percentage of students who were referred for psychoeducational testing and qualified for services would increase, comparing the 1995-1996 school year to the 1998-1999 school year, was not supported. The Prereferral Assistance Teams in this study did not improve in their ability to refer a greater percentage of children that also qualified to receive special education. The results from this study are consistent with research by Short and Talley (1996). Their research also revealed that the use of problem-solving during Prereferral Assistance Team meetings did not increase the percentage of children who were referred for psychoeducational testing and qualified for special education services. The use of problem-solving during Prereferral Assistance Team meetings has not impacted the percentage of students who are referred to psychoeducational testing and qualify for special education services. It may be that the implementation of problem-solving is not related to a reduction in the percentage of students who are referred for psychoeducational testing and qualify for special education services.

Another reason why the other three hypotheses were supported while the results did not show an increase in the percentage of students who were referred for psychoeductional testing and qualified for special education may be the level of acceptable performance that teams set for students. The level set by teams may be too high for some children to achieve, in the time frame that accommodations are implemented in the classroom. For example, a student who has difficulty raising his hand before he talks during classroom discussion may be talking out in class twenty

times in fifteen minutes. The team may agree that talking out only once during that period of time is an acceptable level of performance. Even though the intervention may be improving the student's performance, the improvements may not meet the acceptable level or there may not be enough time for the student to continue to improve his or her behavior. The student's psychoeducational assessment may reveal that the student's behavioral problems could be addressed in regular education. In addition, even though the consultant from the team follows up with the teacher to monitor the child's progress and assist with the accommodations, the accommodations may not be implemented correctly or the teacher may not be able to continue providing the intervention because of time constraints or a lack of resources.

Team members also may not adhere to all the steps involved in the problem-solving process. For example, data based decision making is used to help the team decide whether or not the student should be referred for psychoeducational testing. If the teacher has not provided accurate data or if the team fails to follow through with monitoring the student's progress, the student may be referred for testing, even when the student has abilities or behavior that is within the average range of functioning.

The assumption of the team problem-solving process is that the children who do not succeed with the accommodations implemented during the process are in need of special education and will qualify to receive special services. According to Reschly (1988), the procedures for eligibility determination are not always related to differential instructional effectiveness. Therefore, some children that would benefit from special education instruction and have been referred for psychoeducational testing, may not qualify under current guidelines. For example, children who have

low average general intelligence and low average academic achievement may benefit from special education, but they often do not qualify to receive services.

Hypothesis 3: The results from the current study revealed that there was a significant difference between the 1995-1996 school year and the 1998-1999 school year in the percentage of matches between the reason for referral and the accommodations that were chosen. The percentage of matches was higher for the 1998-1999 school year. In addition, the percentage of non-matches and partial matches decreased. The results supported the hypothesis that the percentage of matches between accommodations and the reason for referral would increase after implementing the problem-solving process for three years.

The increase in the percentage of matches between the reason for referral and accommodations chosen could be explained by improvements that occur as a result of the problem-solving process which includes specifically defining the problem as well as involving a team in determining appropriate interventions. The initial concern is well defined and the team is thus able to choose more appropriate interventions that match the concern.

Also, the problem-solving process as applied with the schools investigated in this study involves reaching a team consensus on the most appropriate accommodations, rather than just allowing one or two persons to decide what intervention should be attempted. The teacher is included in the intervention process so he or she is comfortable with the intervention chosen and feels that the intervention will be successfully implemented in the classroom.

In addition, the school psychologists who trained the teams in the problem-solving process were included on the Prereferral Assistance Teams. It is possible that their assistance in choosing the accommodation increased the number of matches between the reason for referral and the accommodation.

Hypothesis 4: The hypothesis that there would be an increase in the percentage of specific interventions when comparing the 1995-1996 school year to the 1998-1999 school year was also supported. Research by Schaefer (1998) revealed a significant difference in the number of specific interventions among the different referral years. However, the research did not support an increase in specific interventions over time. The current research study may have revealed an increase in the percentage of specific interventions because the team did not use problem-solving during the 1995-1996 school year, while Schaefer's research involved schools who used problem-solving every year.

Problem-solving includes using data based decision making. It is generally easier to collect data with a specific intervention. For example, an intervention that involves increasing reading speed by reading to others is not specific. However, an intervention that includes reading current class textbooks with a parent volunteer once a day for fifteen minutes, to improve reading speed from ten words a minute to thirty words a minute, is a specific accommodation and can be measured. The reading speed can be measured at the end of the volunteer session on a daily basis.

The finding that there was a reduction in the percentage of students who were referred to psychoeducational assessment is related to the results that there was an increase in the number of specific and appropriate accommodations. Behavioral and

academic problems that do not require special education to remediate the concerns, should show improvement within general education classrooms as long as the interventions are specific and appropriate. Therefore, with more specific and appropriate interventions, the percentage of students who are referred for psychoeducational assessment should decrease.

Teachers who are members of the team and teachers who have presented students to the team also may be gaining experience and knowledge in choosing specific and appropriate interventions. Half of the team members participated in the problem-solving training at the beginning of the 1996-1997 school year. The years of experience they have gained may have increased their ability to choose specific interventions. The study by Schaefer (1998) did not reveal when or if the Prereferral Assistance Team members had recently received problem-solving training.

Implications for Practitioners

The most important result of this study is that problem-solving improved the effectiveness of Prereferral Assistance Teams in the schools studied. This implication has specific meaning for school psychologists. School psychologists are often responsible for training schools to use a prereferral process. School psychologists should be trained in the problem-solving steps and how the steps can be used in the Prereferral Assistance Team process. Then, school psychologists, in turn, can teach the problem-solving steps to Prereferral Assistance Teams. The training will assist teams in following a Prereferral Assistance Team process that is focused on: defining problems; using a predetermined series of steps; and remediating problems without psychoeducational assessment.

Second, ongoing training needs to be provided to insure that the steps in problem-solving are followed. In this study, the psychologists that originally provided problem-solving training were still employed by the schools in the district and half of the team members that were involved in the training still participated in team meetings. Thus, the psychologists were able to monitor the process from the 1995-1996 to the 1998-1999 school year. In other school districts, however, the availability of monitoring and continued teaching in problem-solving may be limited. Therefore, training sessions are vital to insure that the use of problem-solving in the Prereferral Assistance Team process is continued. In addition, training programs need to consider the concerns of the particular schools and address them through training and support services during implementation of Prereferral Assistance Teams (Rosenfield, 1992). Schools vary in the way they standardize the Prereferral Assistance Team process and the implementation of problem-solving. Training should involve continued support for consistency of the Prereferral Assistance Team process and the steps used during the process.

A third implication of this study is that other procedures may need to be implemented in the Prereferral Assistance Team process to increase the number of students who are referred for psychoeducational assessment and qualify for special education services. The use of Curriculum Based Measurement, for example, would assist teams in determining if the student's academic level is below grade level in reading, mathematics, or written expression. Curriculum Based Measurement has not been used as part of the Prereferral Assistance Team process in this particular school district. In addition, other screening assessment instruments that give an indication of

general intelligence level would help to determine if a child would possibly qualify for special education. Training could also be provided to help determine what interventions have been shown to be effective and how long the interventions need to be implemented to show progress.

Another implication of this study, related to the number of students who are referred for psychoeducational assessment and qualify for special education services, includes providing support for students who are referred for psychoeducational testing and do not qualify for special education. The use of problem-solving during Prereferral Assistance Team meetings did not increase the percentage of students who are referred for testing and qualify for services. Other programs such as Title 1 services, which are provided by this school district, would be beneficial for some students who do not qualify for special education.

Limitations

The research study was limited because data was taken only from two different school years in one school district. However, the goal was to look at the effectiveness of the teams after the problem-solving process had been fully implemented, and this school district had data from Prereferral Assistance Team meetings that did not use problem-solving and data from meetings that did use problem-solving after training within the same schools.

In addition, this school district had a high rate of gifted referrals to Prereferral Assistance Team meetings and to psychoeducational testing. It is possible that accommodations for students who perform significantly above average on academic

tasks are easier to choose, implement, and monitor to determine if testing is necessary. Also, many of the accommodations may involve the child working on extra projects that do not require a great deal of teacher assistance, planning, and resources.

Also, treatment integrity was not addressed in the research study. Treatment integrity is defined as the appropriateness of the interventions and the quality of the implementation of the interventions (Sindelar et al., 1992). Although a consultant is available for every teacher to help implement the interventions, not all interventions may be carried out completely or accurately. These variables were not examined as part of this research study. An analysis of treatment integrity would assist in determining whether or not the teachers were following intervention plans developed from Prereferral Assistance Team meetings and would improve the internal validity of this study.

Finally, although the results from this study revealed that the use of problem-solving during Prereferral Assistance Team meetings decreased the percentage of children who were referred for testing and increased the specificity and appropriateness of the interventions comparing the 1995-1996 school year to the 1998-1999 school year, other variables may be affecting the results. For example, the team members from 1998-1999 could have had a greater knowledge base in research based interventions than the team members from the 1995-1996 school year. The teachers also may be better at determining what children really need to be referred for psychoeducational testing, regardless of the use of problem-solving. It is also possible that a reduction in referrals to psychoeducational testing was noted because

teachers realize this is one of the goals of the Prereferral Assistance Team. The implementation of any systematic process to the Prereferral Assistance Team meetings may have had the same effect on referral rates and the accommodations developed during meetings.

Suggestions for Future Research

Problem-solving that includes data based decision making has been emphasized and has been identified as one of the most important components of effective Prereferral Assistance Teams (Ross, 1995; Rosenfield & Gravois, 1996). A well-defined problem is also an important step in the process (Sindelar et al., 1992). Future research should involve determining what steps are the most vital for effective Prereferral Assistance Teams. The research should also be expanded to other schools. For example, the school district in this study was trained to use the problem-solving process and all the steps involved in the process. The current study did not determine if the schools always included all the problem-solving steps or if the steps were followed consistently. In addition, no further training in the problem-solving process has occurred. Training teachers and support staff to continue to use the steps involved in problem-solving appears to be crucial to the continued success of the prereferral process.

There are several variables that influence the implementation and the outcomes of intervention assistance programs (Zins, Graden, & Ponti, 1988). One variable that was not examined in this study was treatment integrity. Future research could involve determining if the interventions developed at Prereferral Assistance Team meetings that use problem-solving are implemented as they were designed.

Finally, specific and appropriate accommodations occurred at the same time as a decrease in special education referrals. Although this was not a causal relationship, future research could involve analyzing this relationship. It may be that the increase in specific interventions and the increase in appropriate interventions are the most important contributions of using problem-solving during Prereferral Assistance Team meetings. Also, it may be that increasing the percentage of students who are referred for psychoeducational testing and qualify for services is not affected by using problem-solving during Prereferral Assistance Team meetings. Future research could look at the importance of problem-solving on decreasing inappropriate referrals to special education.

Summary

Prereferral Assistance Teams that incorporated the problem-solving process in this study were effective in reducing referrals to psychoeducational testing, in increasing the percentages of matches between reasons for referral and accommodations, and in increasing the percentage of specific accommodations. Further analysis into the accommodations used during the process, treatment integrity, and the steps involved in problem-solving are warranted because Prereferral Assistance Teams using problem-solving were not more effective in increasing the percentage of referrals that also qualified for special education services. Other methods such as using tests to screen for eligibility may be needed to increase the percentage of children who are referred for testing and qualify for special education. Further research to determine what factors constitute effective Prereferral Assistance Teams is important to continue to improve the special education process. Problem-

solving appears to have many benefits to Prereferral Assistance Teams and schools may want to implement problem-solving and replicate this study.

The focus of Prereferral Assistance Teams should be on developing strategies in the classroom to assist students having behavioral or academic problems in regular education (Christenson et al., 1982). Teams should have this focus because not all children that are referred for psychoeducational testing are eligible for special education services (Chalfant et al., 1989; Reynolds et al., 1987). Problem-solving has been shown to improve the specificity and appropriateness of the accommodations that are developed in regular education. This should, in turn, help the students that are not eligible for services but still need some modifications or accommodations in order to succeed in regular education classrooms.

When a system, such as the Prereferral Assistance Team process, is developed as part of the decision making for special education eligibility, an examination of the process is critical. The decisions made from the Prereferral Assistance Team process will influence many lives. The process involves determining which children will receive psychoeducational assessment and consequently, could be eligible for special education. Therefore, Prereferral Assistance Teams must be evaluated because they are a critical step in the special education eligibility process.

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Table 1

Prereferral assistance students who were referred for special education evaluation

Year	Raw Scores	Percentages
1995-1996	158	77.8%
1998-1999	94	63.5%

Note. Raw scores represent the number of referrals for 1995-1996 from a total of 203 and for 1998-1999 from a total of 148.

Table 2

Chi-square analysis

Variable	X^2	DF	Significance
Referral to testing x Year	8.67	1	.01
Tested and qualified x Year	.01	1	NS
Matches x Year	21.39	2	.01
Specificity x Year	9.57	2	.01

Table 3

Specificity of Prereferral Assistance Team accommodations by year

	Accommodations			
Year	Specific Raw Scores	Percentages	Not Specific Raw Scores	Percentages
1995-1996	99	55%	81	45%
1998-1999	106	72%	42	28%

Table 4

Specific accommodations by reason for referral

Year	Academic	Behavioral	Combination	Total
1995-1996	65 (66%)	6 (6%)	28 (28%)	99
1998-1999	76 (72%)	9 (8%)	21 (20%)	106

Appendix A

Questionnaire for Team Coordinator

1. Today's Date _____

2. Number of students served each year using the prereferral process (only include new referrals to the team)

   1995-1996 _____.

   1998-1999 _____

3. Number of students referred for formal psychological evaluations (excluding re-evaluations)

   1995-1996 _____

   1998-1999 _____

4. Number of students who qualified for special education services

   1995-1996 _____.

   1998-1999 _____

Appendix B

PREASSESSMENT TEAM SUMMARY REPORT

STUDENT _____ DATE OF BIRTH _____ GRADE ____ AGE ____

PARENTS _____ ADDRESS

_____

SCHOOL _____ DATE

_____

1. List specific reason(s) for this referral to the preassessment committee:

_____

_____

2. Summary of interventions attempted to date: (Attach documentation of implementation of intervention strategies and results).

INTERVENTIONS	DATES: STARTED/ENDED
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

3. Recommendations of the preassessment committee:

   A. _____

   B. _____

   C. _____

   D. _____

4. Date of follow-up meeting _____

5. Team members in attendance, and position (check means s/he is in attendance)

Appendix C

Prereferral Data Collection Information (from the prereferral assistance meeting forms)

School Year _____

ID # _____

Gender _____

Reason for the referral to the team

Accommodations

Reason for Referral ("1" for behavioral, "2" for academic and "0" for combination)

_____

Specificity of the Accommodations ("S" for specific and "NS" for not specific)

_____

Accommodations and the Referrals ("M" was a match, "N" was not a match and "P" was a partial match)

_____

Appendix D

Training information on data coding for the reason for referral, accommodation specificity and referral/accommodation match

Referrals

1 = Behavioral Referral (staying on task, attention problems, out of seat, hitting)

2 = Academic Referral (reading decoding, reading comprehension, mathematics problem solving, mathematics computation, written expression, sentence structure)

0 = Combination of Academic and Behavioral (reading comprehension and staying on task; sentence structure and following directions; calculating division problems and disorganized desk)

Accommodation Specificity

S = Specific (sight word drill and practice; social skills group with counselor on learning appropriate social behavior; behavioral contract with completing work)

NS = Not Specific (tuitoring program; assistance with reading; behavioral plan)

Referral and Accommodation Match

M = Match (reading decoding and drill with sight words; not completing homework and a home school note to verify completion of assignments; spelling and practice with spelling words once a day)

N = Not a Match (mathematics computation and increase homework; social skills problems and remediation in reading skills)

P = Partial Match/ Some match and some do not match (combination referrals with accommodations that address only the academic concern or only the behavioral concern)