11-1-1993

Problem-Solving Versus Traditional Approaches to Assessment and Intervention

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PROBLEM-SOLVING VERSUS TRADITIONAL APPROACHES TO ASSESSMENT AND INTERVENTION

A Field Project

Presented to the

Department of Psychology

and the

Faculty of the Graduate College

University of Nebraska

In Partial Fulfillment

of the Requirements for the Degree

Educational Specialist

University of Nebraska at Omaha

by

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November, 1993

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Acknowledgments

I would like to thank the members of my committee for their guidance and support through the completion of this project. Thank you to Dr. Joseph LaVoie and Dr. Doris Henry for their technical guidance and editing skills; to Frank Hartranft for his assistance in data entry for statistical analysis; and to Dr. Bruce Jensen who provided unending encouragement, administrative support, and background knowledge for the project. Special appreciation goes to Dr. Robert Woody who kept me on task and gave counsel regarding the practical aspects of the project. A second thanks to Dr. Woody who served as my advisor throughout my graduate experience at University of Nebraska at Omaha. His advice, guidance, and teaching have challenged me to seek my potential in school psychology.

I would like to thank my wonderful parents, Gene and Irene Martin, who always encouraged, supported, and inspired confidence. They gave love when most needed.

A final and most heart felt thank you to my husband, Brian E. Hass. Without his love, patience, and persistence, this project would not have been completed. I am eternally grateful for his wonderful encouragement.

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Field Project Acceptance

Acceptance for the faculty of the Graduate College, University of Nebraska, in partial fulfillment of the requirements for the degree, Educational Specialist, University of Nebraska at Omaha.

Committee

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December 7, 1993
Date

Abstract

Trends in both regular and special education are moving towards changing current referral, test, and placement into special education practices. The changes are focused on implementing procedures that will decrease the number of students inappropriately placed in special education settings. The results and outcomes of implementing new progressive changes in referral, test, and placement practices are not fully known. The purpose of this research is to compare two approaches of service delivery utilized at Northern Trails Area Education Agency (NTAEA) located in north central Iowa. The two approaches being compared are the traditional approach used at NTAEA in 1990-1992, and the problem-solving approach, used at NTAEA in 1992-1993.

Trends in regular and special education, school psychological service delivery models, and pre-referral intervention systems are reviewed. Iowa's Renewed Service Delivery System, as well as the traditional approach and the problem-solving approach are described. The research questions address the comparison of the traditional approach and the problem-solving approach regarding referral, test and place practices; quantity of assessment and intervention activities completed prior to referral for evaluation; and the preferred approach by professionals. Differences between academic only, behavior only, and a combination of academic and behavior referral concerns using the problem-solving approach are examined also.

Results indicated substantial differences between the two approaches with the problem-solving approach having a higher percentage of referrals, a lower percentage of referrals going on to evaluation, and a higher percentage of referrals evaluated that were placed in special education programs. The problem-solving approach had a significantly increased number of assessments prior to evaluation, whereas the traditional approach had slightly more interventions completed prior to referral for evaluation. Differences were found between referral, test, and place practices regarding academic only, behavior only, and academic and behavior referral concerns with the problem-solving approach assisting students with behavior only concerns most effectively.

A discussion of and an interpretation of the results were included. Support for the problem-solving approach as opposed to the traditional approach to service delivery were discussed. Recommendations were made for improving the problem-solving approach. Recommendations for further research were included.

Chapter I

Introduction

Current trends in education have the capabilities of dramatically affecting the way psychologists function in school settings. School psychologists' have been linked to education for almost a century. The field of school psychology was established by Lightner Witmer around the turn of the twentieth century when the first hospital-based school was founded (Woody, LaVoie, & Epps, 1992). In the 1960's, school psychology experienced what Woody et al. (1992) called the "glory days" due to key mental health legislation, increased federal funding, and increased recognition of psychoeducational services. Just as education has changed in function and form across the years, so has school psychology. Because education and school psychology are reciprocally interactive fields, major changes in one affect the other. The two fields have also on occasion moved toward changing in the same direction. Presently, each field appears to be moving concurrently toward changing the way students who have difficulties in the classroom are referred, evaluated, and given special services. There appears to be growing statewide support away from test-and-place practices and toward implementing interventions in the student's regular classroom in response to a student's special needs.

Purpose of the Paper

The purpose of this study is to examine and compare a traditional approach to a problem-solving approach in the referral process at Northern Trails Area Education Agency (NTAEA) in northern Iowa. In the first part, referral, test, and place practices of each approach are compared to determine if and how the approaches differ in their assistance to students. In addition, the number of assessment and intervention activities attempted prior to evaluation are compared across the traditional approach and the problem-solving approach in the second part. The assessment and intervention activities are compared between the two approaches to determine differences in the quantity of assisting activities, completed prior to evaluation, for the purpose of helping the student succeed in the regular classroom.

A third part of the study focuses on examining the differences between academic only referral concerns, behavior only referral concerns, and a combination of academic and behavior referral concerns in referral, test, and place practices using the problem-solving approach. The purpose of examining these differences is to determine which type of referral concern is assisted best through the problem-solving approach, and likewise which referral type is the most likely to result in evaluation and placement.

In the final part of the study, school personnel and NTAEA staff were surveyed to determine whether the traditional approach or problem-solving

approach was preferred. Survey respondents were asked to rate the services received by students for each approach. In addition, they were asked to indicate the approach they preferred in their work with students.

In summary, this study explores and compares aspects of the traditional approach used at NTAEA from 1990 through 1991 and the problem-solving approach used at NTAEA from 1992 through 1993. Differences in referral, test, and place practices for academic and behavior referral concerns using the problem-solving approach are examined also.

Organization of the Paper

Chapter I includes an introduction of the study as well as definitions of terms used throughout the paper, assumptions, limitations of the research, and research questions. A review of related literature regarding educational trends, school psychology service delivery models, and pre-referral interventions are presented in Chapter II. Also included in Chapter II is a description of Iowa's Renewed Service Delivery System. Comparisons between the traditional approach used at Northern Trails Area Education Agency (NTAEA) until 1990-1991 and a new problem-solving approach which began at NTAEA in 1991-1992 are made in Chapter III. A methodology section, in Chapter IV, describes a four-part study that seeks to make comparisons between outcomes of the two approaches, as well as examine differences between academic only, behavior only, and a combination of academic and behavior referral concerns. The

results of each part of this study are presented in Chapter V. Finally, Chapter VI includes a summary of the significant results and conclusions, recommendations on improving current practices using the problem-solving approach, and recommendations for further research.

Definitions

The following definitions represent how words used in this text are defined:

Assessment Activities: Activities completed in order to obtain information regarding a student's situation. Information may be obtained through the following methods: (a) observation of the student in the setting, (b) interview with teachers, parent, student, (c) curriculum-based assessment, and (d) standardized instruments, to name just a few.

Comprehensive Evaluation: The use of standardized assessment in evaluating two or more of the following areas: intellectual ability, adaptive behavior, social behavior, academic performance, motor skills and communication skills.

Formal Referral: A form completed by a referring party (e.g., parent or teacher) concerning a specific student who is experiencing difficultly in meeting school/home demands. The form is given to Northern Trails Area Education Agency support staff in request for assistance in helping the student and referring party address the concerns.

Instructional Program: Any special education program where the student spends a part of his/her school day in the special education classroom or receives assistance from a special education instructor.

Intervention Activities: Activities implemented in order to assist in the alleviation of factors negatively influencing a student's success in school. Such activities may include: (a) peer tutoring, (b) behavior management program, (c) curriculum-based measurement-monitoring, and (d) seating arrangements.

NTAEA Support Staff: Professionals employed by the Northern Trails Area Education Agency (NTAEA) to provide delivery services to students, teachers, administrators, parents and counselors in a school system. At NTAEA, this term most often applies to school psychologists, school social workers, and special education consultants.

Pre-evaluation Activities: Assessment and intervention activities completed prior to consent for evaluation. These activities are completed in an attempt to eliminate the need for evaluation and help alleviate the referral concerns regarding a student.

Support Services: Services provided to an individual student on a regular basis by a member of the NTAEA support staff for example, speech and language therapy, social skills group, or counseling services.

Assumptions

The following assumptions are made in this study:

1. All public schools in the North Iowa region have NTAEA support staff and special education programs available to meet the needs of students having difficulties.

2. The service delivery system used by an education agency reflects the theoretical model subscribed to by that agency and attitudes toward special education service delivery.

3. Decisions regarding where and how a child is to be served reflect whether interventions implemented prior to the placement decision were successful in meeting the needs of the child. If a child is appropriately placed in a special education program, interventions attempted prior to that placement were unsuccessful in meeting all the needs of the child.

4. Decisions regarding placement into special education programs reflect whether the need for a comprehensive evaluation was valid. When a child is placed or identified as needing a special education program, the comprehensive evaluation was appropriate. When a child is not found in need of special education, the comprehensive evaluation was inappropriate or unnecessary.

Limitations of the Study

The following statements represent limitations that exist in the present study:

1. Data were collected from one Area Education Agency in one state.

2. The attitudes and approaches of individual support staff and team members may blur the validity of the study. Previous attitudes, prior to the implementation of the problem-solving approach, may be retained by individuals involved in the student's referral. This is important to note because of the comparison that is made between the two years of service delivery.

3. The information obtained from the present study does not reflect the entirety of RSDS and the problem-solving approach as well as all aspects of the traditional approach used at NTAEA.

Research Questions

The following research questions will be explored:

1. Do the traditional approach (TA) and the problem-solving approach (PSA) differ in the percentage of referrals made to Northern Trails Area Education Agency (NTAEA)?

2. Does the percentage of comprehensive referrals ending in Step III of the traditional approach (i.e., pre-evaluation activities) differ from Step III of the problem-solving approach (i.e., problem-solving meeting)?

3. Do the traditional approach (TA) and the problem-solving approach (PSA) differ in the percentage of comprehensive referrals that ended the process in Step IV (i.e., consent for evaluation)?

4. Do the traditional approach (TA) and the problem-solving approach (PSA) differ in the placement decisions made following evaluation?

5. Does the number of assessment activities completed prior to evaluation using the traditional approach (TA) differ from the number of assessment activities completed prior to evaluation using the problem-solving approach (PSA)?

6. Does the number of intervention activities, completed prior to evaluation, using the traditional approach (TA) differ from the number of intervention activities, completed prior to evaluation, using the problem-solving approach (PSA)?

7. Using the problem-solving approach, are there differences in the number of referrals made to NTAEA staff for: (A) academic concerns only; (B) behavioral concerns only; or (AB) a combination of academic and behavior concerns?

8. Using the problem-solving approach are there differences in the number of referrals that go to comprehensive evaluation for: (A) academic concerns only; (B) behavior concerns only; or (AB) a combination of academic and behavior concerns?

9. Using the problem-solving approach, are there differences in the number of referrals evaluated that result in special education placement for: (A) academic concerns only; (B) behavior concerns only; or (AB) a combination of academic & behavior concerns?

10. Which approach in comparing the problem-solving approach with the traditional approach, do professionals, teachers, and administrators prefer using in their work with students?

In summarizing Chapter I, a brief introduction to the study was given, with explanations of the purpose of the study and the organization of the paper. Definitions, assumptions, and limitations of the study were provided with a list of questions addressed in the research. Chapter II includes a review of literature related to the research questions and provides background information regarding aspects of the study.

Chapter II

Review of Related Literature

Several topics relating to the present study were reviewed in the literature including regular and special education, service delivery models, and pre-referral interventions. The Renewed Service Delivery System of the State of Iowa is described also.

Regular and Special Education

Throughout history, educators have attempted to provide children with appropriate education for the purpose of assisting children in becoming what they have the potential and capabilities to become. Ideally, appropriate education provides learning opportunities for children to obtain a mastery of basic skills and a knowledge base of the physical and social world (Reynolds & Birch, 1982). Thus, students' progress through the education curriculum learning increasingly complex skills. They integrate, adapt, and generalize their knowledge in various situations and levels enabling them to become productive citizens.

Historically, education has been separated into two independent systems; that of regular education and special education. Regular education is a system that primarily serves the needs of students within the average range of ability with no significant difficulties meeting the demands of the classroom. The majority of children going to school are served through regular education.

Special education, on the other hand, was established to serve students who were not experiencing success in the classroom for a variety of reasons and were identified through an evaluation process, outlined by each state, as needing special programs to maximize their abilities to learn. Reynolds and Lakin (1987) claimed,

> special education for mildly handicapped students exists primarily as a function of what is left undone at any given time by regular education (p. 331).

This was not meant to imply that special education is a dumping ground for regular education students, but rather special education seeks to provide a necessary service to a unique group of students. Special education programs range from resource room programs, where most of the student's day is spent in the regular classroom, to self-contained classrooms or special schools where no integration with regular education occurs, depending on the needs of the student and what is deemed educationally appropriate.

The passage of Public Law 94-142 (The Education for All Handicapped Children Act, 1975) has greatly influenced the delivery of special education services. Public Law 94-142 (hereinafter referred to as PL 94-142) created a system insuring handicapped children the right to receive a free and appropriate education, individualized to meet their special needs. The law also mandated this education to be provided in the least restrictive environment

maximizing the amount of time a handicapped child spends with nonhandicapped peers in the classroom. Thus, regular classrooms and schools with appropriate modifications are considered the most favored placement for handicapped children.

Another area of service greatly impacted by PL 94-142 was in providing appropriate assessment and diagnosis of students having difficulty in the classroom. This part of the mandate placed school psychologists, as well as other support personnel (i.e., special education consultants, school social workers, and speech/language pathologists) into key roles of diagnosing handicaps and determining eligibility for receiving special services, as well as making decisions regarding instruction. However, implementation of the law appears to have created barriers as well. Wang, Reynolds, and Walberg (1986) claimed PL 94-142 inadvertently has led to disjointed special programs segregating handicapped children as well as inconsistent and problematic methods of classification and placement.

Criticisms in the literature abound regarding the current system of classifying students in diagnostic categories (Reschly, 1992; Reynolds & Lakin, 1987; Reynolds, Wang, & Walberg, 1987; Wang et al., 1986; Zins, Graden, Curtis, & Ponti, 1988a) and current placement into special education programs (Giangreco & Meyer, 1988; Graden, Zins, Curtis, & Cobb, 1988). Additional outcomes of PL 94-142 for school psychologists include increased work with

and focus on handicapped students and increased paperwork (Goldwasser, Meyers, Christenson, & Graden, 1983). The rise of literature criticizing and commenting on the present system has led national organizations, the United States Education Departments and State Education Departments, as well as educators and professionals who work closely in education, to begin rethinking the current practices and systems of regular and special education.

There has been a general trend over the last decade toward a more unified system of education. Reynolds and Lakin (1987) reported, "during the 1980's there have been about 30 national reports and nearly 300 state task force reports on improving the general quality of education" (p. 336). Will (1986) called for collaboration and partnership between regular education and special education in meeting the needs of special students. A movement initiated by the federal government and education professionals to change the way in which special students were served has become known as the "Regular Education Initiative" (REI). The REI movement has been a hot topic of discussion, debate, and research over the last few years (Hallahan, Kauffman, Lloyd, & McKinney, 1988; Jenkins & Pious, 1991; Lieberman, 1985; Teacher Education Division, 1987; Thousand & Villa, 1991).

One of the dimensions of REI, where revision was strongly supported by the literature, was in the system for classification, labeling, and categorizing special need students into programs (Reschly, 1992, Reynolds & Lakin, 1987;

Reynolds et al., 1987; Will, 1986). There appeared to be increased support for special and regular educators to redefine their roles and responsibilities in order to encompass and accommodate the movement for less placements in special education resource programs and more emphasis on providing modifications in the regular education setting.

A precipitating force behind this move toward educating students in regular classrooms has been the overwhelming number of students receiving special education. Algozzine and Ysseldyke (1983) warned "the masses are burgeoning" in regard to students in special programs. Approximately five percent of school-age students are referred for consideration in a special program, 92 percent of which result in psychoeducational assessment, and of those 92 percent evaluated, 73 percent are considered eligible for placement in special education (Algozzine & Ysseldyke, 1983). Regular classroom teachers reported that 15 percent of their students are "difficult-to-teach" (Brown, Gable, Hendrickson, & Algozzine, 1991). Similarly, Will (1986) found that 25 percent of students in regular classrooms who are having learning difficulties were found to be ineligible for special services. When students are referred and do not qualify for services,

> teachers are often left without any useful suggestions and students often do not receive alternative classroom interventions (Graden, Casey, & Christenson, 1985, p. 378).

Thus, the system is unresponsive and unfocused on the needs of individual students. The system appears to benefit the students with the most severe needs while those students who were at-risk for having difficulties have the potential of receiving very little individual assistance.

Overall, the regular and special education systems appeared to be undergoing the beginnings of substantial changes in how special needs students are referred, classified, and placed into special education programs (Graden, Casey, & Christenson, 1985). The statistics regarding special education seemed to indicate the necessity of decreasing the number of students in special programs and increasing the role of regular education in meeting those needs (Algozzine & Ysseldyke, 1983). Current referral-test-place procedures are being re-analyzed during the process of locating ways the system can change to meet the goals of education and continue to assist students having difficulties reaching those goals. School psychologists were challenged to discover innovative methods in responding to the needs of the children served, while working toward decreasing the number of students in special education who could be served in less restrictive, regular education classrooms. In searching for a model on which to base a service delivery system, models currently used by school psychologists must be examined. An attempt could then be made toward accepting and applying aspects of the models that support the changes that are taking place in education.

Thus, as education changes, school psychology also must focus on changing aspects of service delivery to coincide with new ideas. The following section contains a review of literature related to service delivery models for providing school psychological services in the school setting.

Service Delivery Models

School psychologists have typically held roles which interface regular and special education. Elliott and Witt (1986) noted "psychology is a 'guest' in education's house" (p. 1). The role of school psychologists in the school setting varies as a function of: (a) the demands of the setting; (b) the priorities and definitions others such as principals, teachers, counselors place on the position; (c) the geographical location of the school, be it urban, suburban, or rural; (d) ratio of students to psychologist; (e) expertise and interest areas of the school psychologist, (f) resources available; and (g) characteristics of the students and programs.

The services which school psychologists provide for the education system were outlined by the National Association of School Psychologists (1984) in Standards for the Provision of School Psychological Services. In general terms they include: (a) consultation; (b) psychological and psychoeducational assessment; (c) interventions; (d) supervision; (e) research; and (f) program planning and evaluation. Similarly, the American Psychological Association (1981) described the services a school psychologist

provides as the following: (a) psychological and psychoeducational assessment; (b) interventions to individuals; groups and education services; (c) consultation; and (d) program development and supervision. A school psychologist is an applied scientist and interventionist, a descriptionist, a rationalist and purist, and a systems manager, according to Phillips (1990).

School psychologists historically have functioned primarily in psychodiagnostic roles. Goldwasser et al. (1983), in a survey of practicing school psychologists, found school psychologists reported spending 70 percent of their time in assessment activities. Consultation consumed 20 percent of their time and 10 percent of their time was spent doing interventions directly with students. Many school psychologists complained of restricted roles and have expressed the need for broader roles and functions in their work.

In addition, school psychologists presently provide what Reynolds, Gutkin, Elliott, and Witt (1984) referred to as "tertiary prevention services to students having 'full blown' problems instead of primary or secondary prevention services" (p. 46). Reportedly, school psychologists spend 71 percent of their time with handicapped students as opposed to 29 percent of time spent with nonhandicapped students (Goldwasser et al., 1983). Thus, although school psychologists had the training and knowledge base in a variety of areas that would benefit a student population, they have been limited to the

role of assessor, and on a secondary level, as a consultant provided to a very limited sample of the population, handicapped students.

Service delivery practices in school psychology are based on service delivery models and theories. These models can be explained or described by examining the following dimensions: (a) interpretation of the problem; (b) interventions toward alleviation of the problem; (c) intervention role of the school psychologist; (d) direct or indirect intervention provided; and (e) whether the service provided represents primary, secondary, or tertiary prevention. These will be the dimensions from which the medical model, ecological/behavioral/consultation models, and the reciprocal determinism model will be reviewed. The medical model will be examined first.

The Medical Model

The medical model evolved from psychoanalytic theory of human psychopathology. Often considered the traditional model of school psychology (Sandoval, 1986), the medical model views a school child's deviation from the norm a result of a disease, disturbance, or deficit within the child. Thus, assessment practices of school psychologists have the purpose of explaining the student's problem and typically compare the student's performance on standardized tests to those of the reference group norms (Bureau of Special Education, 1990).

Cures to help alleviate the problem were focused on changing the inner processes of the child. Reynolds et al. (1984) asserted,

> educational 'cures' seem to come most frequently in the form of special classes that tend to isolate the 'diseased' child from normal or healthy children (p. 31).

If the child's performance was not low enough to meet eligibility requirements, the child's problem was not deemed significantly deviant from the norm and the child continued to be served through regular education. In this model, the role of the school psychologist was to evaluate the child and diagnose the "disease" preventing the child from functioning within the normal range of development or within the classroom setting. Once diagnosed, a school psychologist determined if the child was eligible for special education programs and if so, ascertained the appropriate disability category (e.g., learning disability, mental disability, behavior disorder) that best described the child's deficit. School psychologists in this model, were commonly referred to as "gate keepers" of special education programs (Christenson, Abery, & Weinberg, 1986; Reynolds et al., 1984; Sandoval, 1986).

School psychologists, according to the medical model, worked with students in direct service in order to assess, label, classify, place, and "cure" the child. Direct counseling and psychological assessment were the primary services provided by the school psychologist. Little emphasis was placed on

primary or secondary prevention. A minority of the school psychologist's time was aimed toward assisting nonhandicapped or at-risk populations. Most of their time concentrated on tertiary prevention or remediation.

The medical model perspective, as well as test-and-place practices by school psychologists and other support staff, have been challenged repeatedly in the literature (Reschly, 1990; Reynolds et al., 1984; Reynolds & Lakin, 1987; Sandoval, 1986; Zins, Graden Curtis, & Ponti, 1988b). Criticisms in the literature were primarily directed at the following aspects of the model: (a) the model's focus on deficits within the child as the only cause of school difficulties; (b) the model's overreliance on assessment, diagnosis, and standardized tests; (c) the model's use of labelling and classifying students into disability categories, (d) the model's test and place practices; and (e) the model's view of school psychologists as gatekeepers for special education.

The focus on the "diseased" child, as well as conceptual and empirical findings suggest that the medical model was less than ideal in explaining a student's problem and devising practical interventions to assist a student in need. However, as much as the medical model was criticized, it continued to be used by school psychologists. Reportedly, school psychologists spend 70 percent of their time testing and 71 percent of their time with handicapped students. In addition, the students who are referred are tested and those tested are placed in special education programs (Goldwasser et al., 1983). Thus, the

most logical conclusion established was that school psychologists currently practice according to or in accordance with principles of the medical model. Whether or not school psychologists subscribed to the underlying principles of the medical model, their test-and-place practices, gatekeeper role, and emphasis on tertiary prevention are currently in place.

Behavioral/Ecological/Consultation Models

Alternative service delivery models included behavioral, ecological, consultation, and reciprocal determinism models, have been suggested as more appropriate models of service delivery in the educational setting (Phillips, 1990; Reynolds et al., 1984). Behavioral and ecological models conceptualized the student's difficulties in the classroom as a function of interactions between the environment, other persons, and the individual's characteristics. The problem was viewed as inappropriate interactions between the environment and internal characteristics of the child in the ecological model. Similarly, in the behavioral model, the problem was the result of inappropriate environmental factors influencing the behavior of the child. For the consultation model, the problem consisted of inadequate interactions between the child and the environment, which was considered within the control of the consultee (i.e., parent, teacher).

Assessment practices used with these models concentrated on evaluating whether or not the student's inappropriate behavior was excessive

or deficient when compared to norms of behavior. Interventions of behavior, ecological, and consultation models focused on changing the child's interactions with the environment or with people who may impact that environment, primarily teachers, principals, and the school system.

The role of the school psychologist in these models functioned as a consultant, behavior modifier/manager, ecology expert, and/or systems manager. A variety of activities along the direct and indirect service continuum were provided. Primarily directed at secondary and tertiary prevention, the ecology, behavioral, and consultation models provided a variety of services to parents, students, teachers, and school personnel. Although behavioral, ecological, and consultation models had a broader conception of service delivery and have more contact with people in the child's life than the medical model, they also utilized the test-and-place mode of delivering services. Thus, school psychologists remained in gatekeeper roles (Reynolds et al., 1984).

The Reciprocal Determinism Model

The reciprocal determinism model (Bandura, 1978) has been recommended as the ideal model of service delivery for school psychologists by Reynolds et al. (1984). Proposed by Bandura (1978), the reciprocal determinism model had its origins in social learning theory. In this theory, the problem was a function of the triadic reciprocal interactions between: a) internal processes impact and perceptions; (b) behavior; and (c) the environment.

Solutions to help alleviate the problem involved working toward changing any one or more of the three factors: thoughts, behaviors, and/or environment.

A variety of methods and interventions employed to assist a child using the reciprocal determinism model included: consultation, behavior modification, inservice training, cognitive therapies, and ecological studies. The school psychologists' activities in this model included consultation with parents and teachers, inservice training of persons influencing the child's behavior, assessment methods such as curriculum-based assessment, and standardized assessment to determine student needs. The assessment process was completed for the purpose of providing necessary interventions to the student. Special education was only one environment in which intervention could be provided and school psychologists were not considered gatekeepers in special education. Rather student needs determined where placement will occur. Therefore, the reciprocal determinism model allowed school psychologists to provide a wide range of services encompassing direct and indirect services provided within other models to students experiencing difficulties.

Students at-risk for having difficulties in the classroom as well as students having difficulties were possible recipients of school psychological services and other services typically only offered to the students having the most difficulty. Hence, a combination of primary, secondary, and tertiary prevention were addressed through the reciprocal determinism model.

In summary, there were a variety of service delivery models upon which school psychologists based their services in assisting students who experienced difficulties in the school setting. The literature supported the reciprocal determinism model for explaining a problem and providing psychological services in addressing the problem, as a more comprehensive model when compared to the medical model and behavioral, ecological, and consultation models.

Pre-Referral Interventions

Although the reciprocal determinism model was proposed to be the most comprehensive model for school psychology service delivery, current educational systems have not allowed psychologists in the schools to function in roles other than test-and-place and gatekeeper. Some educational systems have proposed that problem-solving and intervention-oriented activities that were implemented before the referral process for comprehensive psychoeducational evaluation were possible starting places for changing the way school psychologists were utilized in the schools. It also changed the current test-and-place practices. Intervention-oriented practices were supported by principles of the reciprocal determinism model of service delivery. A solution to this dilemma was to utilize the concept of trying interventions to help alleviate the problems a child was having prior to or in place of testing. This solution has received overwhelmingly positive support in the recent

literature (Brown et al., 1991; Graden, Casey, & Christenson, 1985; Graden, Casey, & Bonstrom, 1985; Ponti, Zins, & Graden, 1988; Ysseldyke, Pianta, Christenson, Wang, & Algozzine, 1983; Zins et al., 1988a).

Several different terms have been used in the literature to describe the process of applying interventions prior to evaluation and they included: pre-referral intervention, pre-evaluation activities, intervention assistance teams, problem-solving teams, mainstreaming assistance teams, and consultation-based service delivery systems. Regardless of what it was called, through the consultative problem-solving model, problems were identified and prioritized, and interventions were systematically implemented, monitored, and evaluated prior to referral for evaluation.

There were many proposed positive outcomes of working within a problem-solving, intervention-oriented framework. Problem-solving in this manner emphasized meeting the needs of the individual student rather than diagnosing the problem. The student was placed with hopes that in the process the student's needs were met. Also, the student and the referring teacher were given assistance immediately instead of waiting for standardized tests to be completed.

Any assessment activities completed as part of the problem-solving process were assessments directly linked to interventions. Fuchs and Fuchs (1986) offered curriculum-based assessment as an alternative to standardized

tests in linking assessment with intervention and the student's classroom curricular demands. The emphasis on early identification of problems and preventative work with students who are at-risk for having difficulties in the classroom, lend support to this type of process. All school-age students needing assistance were seen as the client in this process. Predictions that this process will reduce the number of students who are inappropriately evaluated, reduce the number of students unnecessarily placed in special education programs (Graden, Casey, & Christenson, 1985), and help prevent nonhandicapped students from being declared handicapped (Ysseldyke & Christenson, 1988) were made in the literature. Brown et al. (1991) stated,

> When pre-referral interventions succeed, referral of students to special education is avoided. On the other hand, if the strategies employed are not successful, there is additional documentation to substantiate the need to introduce special services (p. 193).

Interventions that were implemented, monitored, and evaluated, systematically provided a database from which progress could be determined and decisions could be made. In addition, strategies that have been attempted, as well as the results of those strategies were documented and provided additional information if the child was subsequently evaluated.

There was a need for regular education to take a more active role in working with special students. The problem-solving process encouraged the

active participation of regular education teachers in not only identifying the problem, but also finding and implementing strategies that may help the child remain in the regular classroom. If parents of students having difficulties were invited to participate on problem-solving teams, then they could become an integral active member of the team. They could provide valuable information in both assessing the problem and finding strategies that may work for the child.

Finally, in implementing problem-solving procedures, the role of the school psychologist could be expanded beyond that of assessor. School psychologists could have the opportunity during the process to interact with regular and special education teachers and parents, and provide services to students at all levels. Consultative problem-solving could allow school psychologists to apply knowledge in the intellectual functioning, human development, learning theory, consultation, behavior modification/management, systems analysis, academic behavior, cognition, perception, research, and environmental areas.

In summary, consultative problem-solving prior to referral for psychological assessment proposes to: (a) be child-centered; (b) be immediately beneficial; (c) be preventative; (d) reduce inappropriate test referrals; (e) reduce inappropriate placements; (f) link assessments to interventions; (g) increase regular educators' roles; (h) involve parents; (i) provide data-based documentation of activities; and (j) expand and change the

role of school psychologists. As a process fairly new to educational settings, the available research in the area of efficacy of pre-referral interventions was somewhat limited.

Renewed Service Delivery System

Although pre-referral interventions had many positive aspects and were supported in the literature, current educational systems did little to support school psychologists' participating in activities other than assessment for placement. However, Carter and Sugai (1989) found that 23 state education agencies confirmed the need for prereferral practices by mandating a pre-referral plan. Another 11 made recommendations to local education agencies to provide interventions prior to referral for evaluation. States in which pre-referral interventions have been promoted or mandated included: Iowa, Louisiana, New Jersy, Ohio, North Carolina, and South Carolina (Zins et al., 1988). Hence, many states worked toward developing educational system changes that would allow for greater freedom in delivering services to students.

In the last few years, area education agencies (AEAs) throughout the State of Iowa have been moving toward developing and implementing a new system of delivery in regular and special education that reflected a move from the traditional medical model to a reciprocal determinism model of service delivery. This system was called the Renewed Service Delivery System

(RSDS) and was established to address concerns of the state regarding efficacy issues in special education programs.

The primary goal of RSDS was to improve the traditional system of delivering services to students with learning disorders and behavior problems. The Iowa Bureau of Special Education collected information leading to RSDS from discussions with 3,000 to 4,000 persons across the State of Iowa representing various factions of education (e.g., administrators, parents, teachers, school psychologists, school social workers, special education consultants). From these discussions, a list of major issues regarding current educational practices were identified. Six issues identified by the State Committee were as follows (in shortened form): (a) separation between regular and special education; (b) heavy reliance on resource room programs in service delivery; (c) excessive referral and identification of students as handicapped leading to expensive special education programs; (d) types of programs/services limited to students with disabilities identified through an expensive eligibility determination process; (e) special education law requirements leading to a limited number of students receiving services and a rigidity in options available to those who are eligible; and (f) overemphasis on standardized tests to determine eligibility (Reschly & Flugum, 1992).

From these identified issues and the goals of RSDS, several areas for improvement were identified by a state committee and included: (a) integrating

the resources of general, compensatory, and special education program instead of the current system which separates the divisions and allows for little or no interaction between them; (b) utilizing the expertise of special education support and instructional staff in meeting the needs of all students, not just those qualifying for special education; (c) not limiting support staff services such as those provided by school psychologists, school social workers, and special education consultants to students qualifying for special education; (d) broadening the range of intervention alternatives beyond strict, regular and special education programs; (e) delivering instructional and support services in the local education agency as opposed to categorical programs outside the district; (f) not allowing services to be compromised in special education due to changes and new goals; (g) promoting meaningful involvement of parents in making decisions about their child instead of discouraging them with territorial issues; and (h) keeping paperwork to a minimum level as opposed to increasing or maintaining the already overwhelming amount of paperwork involved (Reschly & Flugum, 1992).

What evolved from the discussions, committee meetings, and implementation of RSDS, has been encouraging. Among the wide variety of changes that were made, RSDS reorganized resources to allow funds to be managed according to a "Hold Harmless" principle (see Bureau of Special Education, 1990). In addition, RSDS established a noncategorical approach to

special education programs and dispensed with labeling a student with a disability in order to offer that student services. Through a building plan proposed by each local education agency (LEA) and approved by the state, special educators were given the freedom to serve students in other than resource room special education models.

Of the many components established by RSDS, the problem-solving approach in providing assessment and intervention services to students with identified difficulties in regular and special education, appeared to do the most toward changing the role and activities of psychologists in the schools. The problem-solving approach in Iowa's RSDS model reflected a shift in Iowa's service delivery away from traditional test-and-place practices toward providing consultative problem-solving and interventions prior to referral for assessment. In order to better understand the problem-solving approach, however, one must examine the approach traditionally used by Iowa education agencies.

Chapter III

Description

Traditional Versus Problem-Solving Approach

Prior to the implementation of Renewed Service Delivery System (RSDS)and the problem-solving approach, the traditional approach of service delivery utilized at Northern Trails Area Education Agency (NTAEA) had its theoretical foundation primarily within the medical model of service delivery. In the traditional approach, the referring problem is considered a student problem, thus interventions are directed at identifying the student's personal characteristics that indicate a need for special education (Bureau of Special Education, 1990). Time and energy are directed toward assessing, describing, and diagnosing the student's problem and comparing the student's characteristics to those of a standardized peer group in order to determine eligibility for special services. Little emphasis is given to designing, implementing, monitoring, and evaluating interventions to change the problem once it is understood. Instead, the special education program is prescribed as the cure. Under this approach, school psychologists function as the diagnosticians and eligibility decision-makers without focusing on designing interventions or working with at-risk students. The majority of the school psychologist's time is spent administering psychological and psychoeducational assessments to determine eligibility for special programs.

Table I

Comparing Traditional Approach and Problem-Solving Approach to Services for Students with Diverse Needs

Topic	Traditional Approach	Problem-Solving Approach
Reason for concern	Student Performance is concern	Student Performance is concern
Problem Definition	The problem is within the child within an educational environment	The problem is situation-centered within an educational environment
Assumptions underlying assessment	Students characteristics are the problem	Student performance difference from situation is the problem
Assessment purpose and content	Assessment focus is explanatory: Explanation of the student's problem by studying characteristics and abilities	Assessment focus is descriptive: Description of factors affecting student's performance
Use of team members' expertise	Team members' functions are similar: roles and functions are predictable to each case	Team members' functions differ: unique to demands of each case.
Analysis of assessment data	Individualized quantitative analysis	Individualized qualitative analysis
Intervention focus	Service as goal	Corrective actions as goal
Goal setting & progress monitoring	Indirect and infrequent monitoring	Direct and frequent monitoring
Student Outcome	Change in student characteristics	Change in problem behaviors

Note: Adapted from Bureau of Special Education (1990, pp. 2-3).

Table I compares the traditional approach and the problem-solving approach in the delivery of psychological services in the educational setting. As indicated in Table I, the traditional approach takes a student problem approach to service delivery, whereas the problem-solving approach focuses on the student, the environment and expectations of that environment. Differences in the two approaches as they relate to the entire assessment and intervention process are included in Table I.

In comparison to the traditional approach, the problem-solving approach is based on aspects of the reciprocal determinism and the consultation models. Using the problem-solving approach, the problem is defined as a discrepancy between the student's current level of performance and what the student is expected to do to be successful in the school environment. Time and energy, therefore, are focused on identifying the problem and designing, implementing, monitoring, and evaluating interventions to help reduce the discrepancy between the student's performance and the expectations of the environment. Hence, diagnosing and determining eligibility are secondary in the process.

School psychologists function in a variety of roles. The problem-solving approach least emphasized the role of diagnostician. The school psychologist uses his/her training and knowledge-base to assist in problem-solving with the team and designing data-based interventions that are monitored and evaluated systematically.

The "team" members involved in problem-solving include: the student's teachers, parents, school administrators and NTAEA support staff such as the school psychologist. Parents are an integral part of the whole process and are encouraged to participate as much as possible in implementing interventions.

Table II

Steps of Traditional Approach and Problem-Solving Approach

Steps	Traditional Approach	Problem-Solving Approach
I	Formal referral completed by referring party: "Pre-evaluation Activities" form (principal signs)	Formal referral completed by referring party: "Step I" of Problem-Solving form (principal signs)
II	Referral received by NTAEA support staff	Referral received by NTAEA support staff (Case manager assigned)
III	Meeting with parents/teachers. Areas of concern identified. Options available 1. No further action taken 2. Regular education assessment given 3. Short-term support services provided 4. Consent for evaluation obtained 5. Additional pre-evaluation activities	Meeting with parents/teachers. Areas of concern identified. Intervention chosen 1. Progress monitoring 2. Outcome criteria 3. Implementor Subsequent meetings; 1. Results of interventions 2. Design interventions
IV	Comprehensive evaluation	Comprehensive evaluation

Steps of the Process

A comparison of the steps for the traditional approach and the problem-solving approach are shown in Table II. As indicated in Table II, the school psychologist's formal involvement with a student in the traditional approach begins with Step I, when a formal referral from the teacher or parent expressing the concern is obtained by NTAEA support staff. The formal referral is represented by a "Pre-Evaluation Activities" form completed by the referring teacher documenting the reason for concern, dates, and summaries of contacts made with the student's parents, and a listing of all interventions implemented with their results prior to the referral. Thus, meeting the requirements regarding documentation of contacts with parents, of interventions engaged in, and of the outcomes of those interventions set forth by the Iowa Rules of Special Education (1990). See Appendix A for the "Pre-evaluation Activities" form used in the traditional approach.

The "Pre-Evaluation Activities" form is attached to a "Request of Conference" form (see sample in Appendix A) and sent to appropriate NTAEA support staff at Step II in the event that concerns could not be resolved with the interventions attempted. The "Request for Conference" form is completed during a conference with the referring teacher, the student's parent, the student, and an NTAEA support service staff member (typically the school psychologist, school social worker, special education consultant, or speech-language

pathologist serving that district). This conference represents Step III of the traditional approach referral process. Referral questions (see Appendix C) are asked and areas of concern are checked for further exploration. More information is obtained regarding the areas of concern and written in the comments section (see Appendix A).

As a result of the conference, one of several options is chosen for future action. These options include: (a) no further action; (b) notice to parents of regular education assessment and program planning; (c) consent for short-term support services; (d) consent for full/comprehensive evaluation; and (e) additional pre-evaluation activities. If pre-evaluation activities "proved insufficient to resolve the concern, parental consent for a full comprehensive evaluation should be sought" (NTAEA Special Education Manual, 1989, p. 48). Step IV consists of obtaining a consent for evaluation from the student's parent(s). Thus, assessment and intervention activities by NTAEA school psychologists are limited prior to the decision for comprehensive evaluation.

With the problem-solving approach, the school psychologist's involvement begins at Step I when a referring party (e.g., teacher, parent, principal) identifies an area of concern and reason for referral (see Appendix B for samples of forms used). The referral is signed by the principal and then given to an appropriate NTAEA support staff team member serving that building. Step II of the process involves the conferring of the NTAEA support staff team.

These teams consist of the school psychologist, school social worker, and special education consultant serving each school, as well as the speech-language pathologist when appropriate. The team meets and assigns a case manager to coordinate the activities and contact appropriate persons. The latter may include the audiologist who completes a hearing screening, and other ancillary staff as appropriate (such as a vision specialists, nurse, speech-language pathologist, and least restrictive environment (LRE) transition facilitator). Teachers and parents are contacted to schedule a problem-solving meeting.

The problem-solving meeting is Step III of the problem-solving process. At this stage the parents, the teachers, the principal, the student, the counselor, and/or anyone who has concerns or information regarding the student's situation, meet with the NTAEA case manager to identify areas of concern. Referral questions (see Appendix C) are asked to determine in which areas there are concerns, and comments about those areas are written on the form.

The second part of Step III is the unique aspect of the problem-solving approach. The primary focus of this step is to resolve the problem a student is experiencing within the regular education setting. When specific concerns are identified and the problem is defined in observable, measurable terms, the team begins to brainstorm options or strategies that may be implemented as interventions to address the identified concerns.

The second form titled "Problem-Solving Step Three, Continued" (see Appendix B) is used to document interventions that will be tried and assessments that may be needed to gain more information. Examples of this are curriculum-based measurement or classroom observations. Interventions are focused on changing curriculum, instruction, and environment, as well as any other area determined to be affecting student progress. All other options available in the traditional approach (such as "short-term service," "regular education assessment and program planning," and "additional pre-evaluation activities" with the exception of "no further action" and "comprehensive evaluation") are options in Step III.

In Step III, a progress monitoring method is determined also so the data will be documented regarding the student's progress with each intervention. Outcome criteria are established by asking the referring party to ascertain what the student must do to succeed in this area. Therefore, the focus and goal are to reduce the discrepancy between the student's performance and environmental expectations. The persons responsible for implementing and monitoring the interventions are identified as well. Therefore, each person at the meeting has a clear understanding of the problem, the interventions, and his/her respective responsibilities.

Before the meeting is over, a date and time to confer again is established to assess the results of the interventions and student progress in

the problem area. If necessary, the team may meet to monitor progress and attempt different interventions. If after interventions have been attempted and the student continues to have difficulties meeting the demands of the classroom, the team may determine to move on to Step IV.

At Step IV, a consent for a comprehensive evaluation is obtained from the student's parent(s). Information which has been gathered from Step III can be utilized in Step IV to determine how the student's needs can best be met. Thus, in contrast to the traditional approach, the problem-solving approach allows for school psychologists and other support staff to use nonstandardized assessments and to try interventions with the student in the environment where the target behavior is occurring without having to first complete a long laborious series of standardized assessments.

The focus in this approach is on working with the child, environment, curriculum, and persons in the child's life to provide interventions that will help resolve the problem. The problem-solving approach requires the "team" (i.e., the persons involved in the problem-solving meeting such as teachers, parents, support staff) to define the behavior objectively, design appropriate interventions, establish a progress monitoring system, describe the criteria needed to establish whether or not the goal has been met, and identify the person responsible for implementing particular aspects of the intervention. Results of the intervention are documented also. Thus, some of the problems

that have been referred are addressed and resolved without the need for a comprehensive evaluation. A comprehensive evaluation remains a valuable option if the problem is not resolved through the problem-solving meetings. Hence, Iowa's RSDS and more specifically, the problem-solving approach to referrals, typify Iowa's educational attempt to move toward a model of service delivery that better exemplifies the reciprocal determinism model of human behavior.

Although the problem-solving approach appears to be a better way of providing services to special needs students, to be a solution in reducing the number of inappropriate referrals for evaluations, to reduce the number of students placed in special education programs unnecessarily, and to provide options of strategies in meeting the student's needs in the classroom, there has been limited empirical research that compares the problem-solving approach to more traditional approaches of service delivery.

Description of the Research

The purpose of this study is to compare the two approaches, traditional and problem-solving. Information regarding differences between outcomes of referrals that are academic, behavioral, or a combination of academic and behavior concerns will be examined. There are four parts in which this will be accomplished. The research questions pertaining to each of the four parts of

the study will be given. In addition, the results that are expected for each research question and the rationale of those expectations are provided.

Part One

Part One of this study examines and compares referral, comprehensive evaluation, and placement practices of each approach. Specific questions addressed in this part of the study include:

1) Do the traditional approach (TA) and the problem-solving approach (PSA) differ in the percentage of referrals made to Northern Trails Area Education Agency (NTAEA)?
2) Does the percentage of comprehensive referrals ending in Step III of the traditional approach (i.e., pre-evaluation activities) differ from Step III of the problem-solving approach (i.e., problem-solving meeting)?
3) Do the traditional approach (TA) and the problem-solving approach (PSA) differ in the percentage of comprehensive referrals that ended the process in Step IV (i.e., consent for evaluation)?
4) Do the traditional approach (TA) and the problem-solving approach (PSA) differ in the placement decisions made following evaluation?

Based on the literature reviewed previously and the goals of RSDS, expectations regarding these comparisons are that the percentage of referrals for the problem-solving approach would be greater than the percentage of referrals using the traditional approach. The basis for this expectation is that

teachers using the problem-solving approach would no longer only refer students with "full-blown" problems that are perceived as needing special services, but will also refer students at-risk and experiencing some difficulties and are perceived as needing modifications in the regular classroom.

Expectations for question two are that the percentage of referrals that end in Step III will be increased using the problem-solving approach when compared to the traditional approach. The rationale for this expectation is that interventions tried in the problem-solving approach are documented, monitored, and evaluated regularly to determine success. Several interventions are attempted by the team prior to consideration for evaluation. Thus, it is more likely that the problem-solving approach will have a higher percentage of referrals assisted through Step III of the process.

The third expectation, corresponding to question three, is that the percentage of referrals for evaluation will be reduced using the problem-solving approach. Justification for this expectation rests in the quality and number of interventions and assessments that are attempted before evaluation is considered in the problem-solving approach.

Similarly, expectations for question four are that a higher percentage of students tested will be placed using the problem-solving approach. Reasoning behind this expectation lies in the assumption that if interventions in Step III of

the problem-solving approach are not successful, there is a higher probability that a student will be evaluated and a higher probability that a special education placement will be a result of that evaluation. Step III of the problem-solving approach in this argument, functions as a screening where only the students who actually need special services will be tested. If the primary purpose of full-team evaluations has been to determine whether or not the student needs special services and if a student is tested and then not given special services or supportive assistance, then testing is assumed to have been unnecessary.

The traditional approach is predicted to have a lower percentage of students given special services of those evaluated because its process is less efficient in ruling out whether or not a student needs special services. If these expectations prove to be correct, the problem-solving approach will gain support as a method that reduces inappropriate referrals for evaluation, reduces inappropriate placements, and allows psychologists to work effectively with parents, teachers, and students in other than direct service testing roles.

Part Two

Part Two of this study compares the number of assessment and intervention activities attempted prior to referral for evaluation. The questions it seeks to answer are:

5) Does the number of assessment activities completed prior to evaluation, using the traditional approach (TA) differ from the number of

assessment activities, completed prior to evaluation, using the problem-solving approach (PSA)?

6) Does the number of intervention activities, completed prior to evaluation, using the traditional approach (TA) differ from the number of intervention activities, completed prior to evaluation, using the problem-solving approach (PSA)?

Expectations regarding these questions are that the number of documented assessment and interventions attempted prior to evaluation, will be increased using the problem-solving approach when compared to the traditional approach. With the problem-solving approach focusing on assessment and intervention activities, one might expect that it would have more such activities documented than that of the traditional approach.

Part Three

Part Three of this study attempts to answer the following questions:

7) Using the problem-solving approach, are there differences in the number of referrals made to NTAEA staff for: (A) academic concerns only; (B) behavioral concerns only; or (AB) a combination of academic and behavior concerns?

8) Using the problem-solving approach are there differences in the number of referrals that go to comprehensive evaluation for: (A) academic concerns only; (B) behavior concerns only; or (AB) a combination of academic and behavior concerns?

9) Using the problem-solving approach, are there differences in the number of referrals evaluated that result in special education placement for: (A) academic concerns only; (B) behavior concerns only; or (AB) a combination of academic and behavior concerns?

This part of the study examines the problem-solving approach and the three types of referrals, academic only referrals, behavior only referral, and academic and behavior referrals. Predictions made regarding this question are that behavior only referrals are the most likely to end at Step III of the problem-solving approach. Hence, this type of referral will have a reduced number of students referred for evaluation, as well as have fewer number of students placed in special programs. Rationale for these expectations are that assessment and intervention activities prior to evaluation may be easier to document, implement, and monitor for behavior concerns. Also, standardized assessment instruments used in evaluations tend to focus on academic areas as opposed to areas of behavior.

Part Four

The final part of this study, Part Four, addresses the following question:

10) Which approach, in comparing the problem-solving approach with the traditional approach, do NTAEA support staff, regular and special education teachers, counselors, and principals prefer using in their work with students?

It would be expected that the problem-solving approach would be preferred by all of the survey respondents due to its emphasis on the needs of students, immediate assistance given to the referring teacher, involvement of parents, and its movement away from standardized assessment and eligibility requirements. However, some may prefer the traditional approach because of its familiarity, an ingrained view regarding test-and-place practices, and resistance toward trying a new approach.

Chapter IV

Methodology

The subjects, instruments, and procedure information for the research study will be organized by separating the four different parts involved. The four parts will be categorized as: (a) Part One, (b) Part Two, (c) Part Three, and (d) Part Four.

Part One

Subjects

Subjects for Part One included all elementary, middle school, and high school students (K-12) attending the 28 public and private school districts served by the Northern Trails Area Education Agency (NTAEA) in the years 1990 to 1991 and 1992 to 1993. The total number of students enrolled in the 28 districts in the 1990 to 1991 school year was 23,098 and for the1992 to 1993 school year, 23,436 were enrolled. Of these students, 544 students were referred for involvement with NTAEA in 1990 to 1991 and 705 students were referred in 1992 to 1993. The students who were referred were grouped the following way:

Group I: Students initially served utilizing the traditional approach to assessment and intervention methods by NTAEA support staff during the 1990 to 1991 school year.

Group II: Students initially served utilizing the Renewed Service Delivery System (RSDS) problem-solving approach to assessment and intervention methods during the 1992 to 1993 school year. Only students in school districts participating in the implementation of RSDS were included in this group. By October 1992, all of the 28 school districts in the NTAEA service area were implementing RSDS.

Note: 1991-1992 students were omitted from the study because this was a transition year where only a proportion of NTAEA school districts were using the problem-solving approach and the others were using the traditional approach.

Criteria for Inclusion

1. Student referrals with academic, behavior, or a combination of academic and behavior concerns were included in each group. Speech-language, auditory, vision, and motor concerns without the presence of academic and/or behavior concerns were excluded.

2. Students for whom this was their initial referral to NTAEA were included. Students already served in a special educational program were excluded.

3. Referrals were included if the case coordinator was one of the following: (a) a school psychologist; (b) a school social worker; (c) a special education consultant; or (d) a speech-language pathologist.

Instrumentation

The Referral Management System (RMS) was the data-based system used to collect data on NTAEA students referred for special education. The RMS was designed for the purpose of providing current feedback to support staff regarding new referrals while also allowing for the collection of information regarding overall student progress in the NTAEA special education system. In this study, the RMS information was used to separate included referrals from excluded referrals and to provide a printout of information on each student. This information included: (a) student name; (b) school district; (c) grade level; (d) initial referral; (e) case coordinator; (f) support staff involved in the referral; (g) disposition of the referral resulting in Step III or evaluation; and (h) placement of the student in an instructional or support program or both.

Procedures

The RMS data-base was used to:

1. Separate the students into groups (1990 to 1991 and 1992 to 1993);
2. Exclude all preschool referrals; and
3. Exclude all referrals of students already in special education programs and include only "initial" referrals.

Using the RMS printout, this investigator manually excluded from the study all referrals where the case manager was not a school psychologist, special education consultant, school social worker, or speech pathologist. The

number of referrals meeting the inclusion criteria were summed. This represented the number of initial referrals that were made to NTAEA support staff for each group. A percentage of referrals from the total number of students was obtained for each group, representing the percentage of students referred for involvement with NTAEA support staff in that year.

The number of referrals including more than one support staff were kept. Referrals where the speech and language pathologist was the only support staff involved were excluded. This was done to include only students who had academic and/or behavior concerns requiring involvement from the school psychologist, school social worker, and/or the special education consultant. Of the remaining referrals considered "comprehensive referrals," the number of students referred for evaluation were separated from the number of students ending the process at the pre-evaluation or problem-solving Step Three stage. For each group, the percentage of comprehensive referrals that were evaluated and percentage of comprehensive referrals that ended the process at problem-solving or pre-evaluation step were compiled. Of the students who were evaluated for each group, the number of students who received either support or instructional special education services or both were summed. A percentage of the students who received services from those who were tested was obtained for each group.

Part Two

Subjects

Students for Part Two included 50 students randomly selected from each of the two groups in Part One. Therefore, the subjects included 50 students randomly selected from Group One (1990 to 1991) and 50 students randomly selected from Group Two (1992 to 1993) who fit the inclusion criteria and who were considered comprehensive referrals. Comprehensive referrals were defined as referrals with behavior or academic concerns requiring involvement from the school psychologist, school social worker, and/or special education consultant. Excluded referrals consisted of referrals where the speech-language pathologist was the only support staff involved.

Criteria for Inclusion

Criteria for Inclusion for Part Two was identical to that of Part One.

Instrumentation

The Referral Management System (RMS) used in Part One was utilized in Part Two in the same way.

Procedures

Procedures for Part Two included numbering the referrals1 to 317 in Group One and 1 to 301 in Group Two. A Statistical Package for the Social Science's (SPSS,1993) randomization program was used to select 50 referral numbers from each group. The students corresponding with these random

numbers were selected. The files of those students were examined and two raters rated each file separately to determine the number of assessments and interventions attempted prior to evaluation (see Appendix D for the definitions and examples of assessment and interventions used in this study). Training for the two raters consisted of reviewing together at least 20 files from each group not included in this study to determine appropriate boundaries for inclusion in assessment and intervention definitions. Another 20 files not included in the sample were examined separately to determine inter-rater reliability. When inter-rater agreement was 100 percent, the raters rated the 50 selected files for each group separately and a measure of inter-rater reliability was obtained.

Inter-rater reliability for Part Two was determined by dividing the number of agreements by the number of agreements plus the number of disagreements multiplied by 100 to obtain a percentage of agreement. The inter-rater reliabilities for the 50 files rated from the traditional approach are shown in Table 3.

As seen in Table III, reliabilities were very high for judgments on assessments (100 percent total), and interventions (99 percent total). However, judgments on type of referral be it A, B, or AB, were not as high (94 percent, 88 percent, and 64 percent, respectively). Especially for a combination of academic and behavior referral concerns (64 percent). This reflects the rater's difficulty in obtaining agreement on referrals fitting the criteria for both academic and behavior rather than one or the other type of referral. The reason for this

may be that finer discriminations were more difficult to determine for academic and behavior referrals as opposed to general discriminations between academic only and behavior only types of referrals.

Table III

Inter-Rater Reliability for Files Using the Traditional Approach

	Judgment on Type of Referral	Judgment on Assessments	Judgment on Interventions
(A) Academic Only	29/31 (94%)	7/7 (100%)	117/118 (99%)
(B) Behavior Only	7/8 (88%)	1/1 (100%)	31/32 (97%)
(AB) Academic & Behavior	7/11 (64%)	4/4(100%)	49/49 (100%)
TOTAL	43/50 (86%)	12/12 (100%)	197/199 (99%)

Note: The following equation was used to determine inter-rater reliability:

$$\frac{\#\text{Agreements}}{\#\text{ Agreements} + \#\text{ Disagreements}}$$

x 100 for percentage of agreement.

Table IV shows the inter-rater reliabilities for files rated from the problem-solving approach.

Table IV

Inter-Rater Reliability for Files Using the Problem-Solving Approach

	Judgment on Type of Referral	Judgment on Assessments	Judgment on Interventions
(A) Academic Only	34/34 (100%)	37/37 (100%)	129/131 (98%)
(B) Behavior Only	6/6 (100%)	6/6 (100%)	15/15 (100%)
(AB) Academic & Behavior	9/10 (90%)	9/9 (100%)	45/46 (98%)
TOTAL	49/50 (98%)	51/51 (100%)	197/199 (99%)

Note: The following equation was used to determine inter-rater reliability:

$$\frac{\#\text{Agreements}}{\#\text{ Agreements} + \#\text{ Disagreements}} \times 100 \text{ for percentage of agreement.}$$

As seen in Table IV, ratings were high throughout, with 98 percent overall agreement on type of referral, 100 percent overall agreement on number of assessments, and 98 percent overall agreement on number of interventions.

Files where there were discrepancies between the two raters were reviewed together and consensus was obtained. This was done for the purpose of having agreement for the analysis. The number of assessments and

interventions were summed and means, standard deviations, and comparisons (significant differences) were compiled using t-tests for independent samples.

Part Three

Subjects

Students included in Part One, Group II, were used for Part Three also. These subjects included only the referrals for 1992 to 1993 meeting all the criteria for inclusion.

Criteria for Inclusion

Criteria for Inclusion for Part Three was identical to that of Part One.

Instrumentation

The Referral Management System (RMS) used in Part One was utilized in Part Three in the same way.

Procedures

In this part of the study, each file from Group II (1992 to 1993) was reviewed and a decision was made to put it in one of three groups: Group (A) academic concerns only; Group (B) behavioral concerns only; or Group (AB) a combination of academic and behavior concerns. The decision was made based on a set of criteria established for each area (see Appendix E for the criteria used). Fifty randomly selected files were rated by two separate raters to obtain inter-rater reliability. The randomization process involved numbering each file and using a SPSS (1993) randomization program to select each set of

50 numbers. Files corresponding to the numbers were those that were rated. The equation: number of agreements divided by number of agreements plus number of disagreements, multiplied by 100 was used to determine percentage of agreement for both inter-rater and intra-rater reliabilities. The 50 files randomly selected for the problem-solving approach for Part Two also were used in Part Three. Table IV indicates the inter-rater reliabilities found in problem-solving approach files.

In Table IV, only judgments regarding "type of referral" were used for this study. Thus, reliability on the 50 files rated separately by two different raters were very high for academic only (100 percent), behavior only (100 percent) and a combination of academic and behavior referral concerns (90 percent); with 98 percent agreement overall as indicated in Table IV. These files upon which inter-rater reliability was obtained were used as a part of the study.

In addition, intra-rater reliability was obtained on another 50 randomly selected files. These were used as a part of the study also. Files were numbered and numbers were randomly selected using an SPSS (1993) randomization program. Files corresponding to the selected numbers were reviewed. Intra-rater reliability was obtained when the same rater reviewed the files on two separate occasions during a three-month interval period. Intra-rater agreement percentages are shown in Table V.

As seen in Table V, reliability was strong for academic only (97 percent) and behavior only (100 percent) files and less so for academic and behavior files (83 percent) with overall 94 percent agreement ratings. Files where discrepancies were found between the two sets of ratings were reviewed a second time and a final judgment was made to obtain 100 percent agreement between the two ratings.

Table V

Intra-Rater Reliability for Files Using Problem-Solving Approach for Type of Referral

Judgments on Type of Referral	Reliability
(A) Academic Only	31/32 (97%)
(B) Behavior Only	6/6 (100%)
AB) Academic & Behavior	10/12 (83%)
Total	47/50 (94%)

Note: The following equation was used to determine inter-rater reliability:

$$\frac{\#\text{Agreements}}{\#\text{ Agreements} + \#\text{ Disagreements}} \times 100$$

for percentage of agreement between a three-month time interval.

The number of files determined to be in Group A, Group B, and Group AB were summed separately and information regarding the following was obtained for each group:

1. Number of referrals;
2. Number of referrals resulting in evaluation; and
3. Number of evaluations where special services were received by the student.

Percentages were computed and the groups were compared on differences of referral, test, and place practices.

Part Four

Subjects

Surveys were sent to two groups of subjects. Group I included 578 principals, regular education teachers, and counselors. This group included all of the principals and counselors in the 28 districts which NTAEA serves and 25 percent of the regular education instructors of those districts. Only 25 percent of the regular education instructors received surveys due to the large number of people in that group. It was believed that 25 percent of that population would be an adequate sample to represent the population. The regular education instructors were selected by randomly selecting the fourth regular education instructor from an alphabetized list of all of the regular education teachers in the 28 districts surveyed. Surveys were also sent to each of the 308 special

education instructors and NTAEA support staff (i.e., school psychologists, school social workers, special education consultants) in Group II.

Surveys were sent to 578 principals, counselors, and regular education instructors in Group I. Of the 578 potential survey subjects, 166 surveys were returned with responses on both survey question one and survey question two, for a return rate of 29 percent. In addition, of the 578 surveys sent to Group I, 205 usable surveys were returned for survey question three. Hence, 35 percent of surveys sent were returned from Group I for question three.

Group II, consisting of special education instructors and NTAEA support staff, had 308 potential subjects to whom surveys were sent. Of the 308 potential subjects, 122 were returned with responses on survey question one and survey question two, for a return rate of 40 percent for Group II. In addition, of the 308 surveys sent in Group II, 152 usable surveys were returned for survey question three, resulting in a return rate of 49 percent.

Procedures

The survey used for this study consisted of three questions (see Appendix F) included in a survey sent by an RSDS research committee at NTAEA. The entire survey was named the "Special Education Innovative Practices Survey."

Surveys were mailed to Group I which consisted of principals, regular education instructors, and counselors, as well as to special educators in Group

II to 28 public and private local education districts in NTAEA services area. The NTAEA support staff surveys in Group II were given to support staff at department meetings. All surveys were distributed in late March of 1993 with a request to return the survey by April 30, 1993.

Survey question one and two were compared within and between Group I and Group II using Chi Square analysis. Percentages of respondents preferring the traditional or problem-solving approach were compared for survey question three.

Chapter V

Results

Results for this study will be organized according to the four parts of the study. The four parts are categorized as: (a) Part One, (b) Part Two, (c) Part Three, and (d) Part Four.

Part One

Question 1

The first research question addressed in Part One is as follows:

1. Do the traditional approach (TA) and the problem-solving approach (PSA) differ in the percentage of referrals made to Northern Trails Area Education Agency (NTAEA)?

Results for research question one, were obtained by comparing numbers and percentages of students referred to Northern Trails Area Education Agency (NTAEA) between the traditional approach (TA) and the problem-solving approach (PSA). It was expected that the number and percentages of students referred to NTAEA for assistance would increase using the PSA when compared to the TA.

Table 6 includes comparisons between the TA and the PSA regarding the total number of students enrolled in the 28 public and private school districts. The number and percentage (percents shown in parentheses) of those students referred to NTAEA, are shown in Table VI. Also indicated is the

breakdown of referrals into two categories, speech only referrals and comprehensive referrals. The numbers and percentages of speech only referrals and comprehensive referrals are shown in Table 6.

Table VI

Comparisons of Referral, Test, and Placement Practices by Approach

Year	Traditional Approach	Problem-Solving Approach
Total Students	23,098	23,436
Students Referred	544 (2%)	705 (3%)
Speech Only Referrals	149 (27%)	168 (24%)
Comprehensive Referrals	394 (73%)	537 (76%)
Comprehensive Referrals Ending in Step III	77 (20%)	239 (44%)
Comprehensive Referrals Ending in Evaluation	317 (80%)	301 (56%)
Students Evaluated and Placed	260 (82%)	278 (92%)
1. Instructional	181 (70%)	221 (80%)
2. Support Service	21 (8%)	20 (7%)
3. Both	58 (22%)	37 (13%)

As shown in Table VI, the total number of students in kindergarten through twelfth grade for 1990 to 1991 (TA) was 23,098. Whereas, the total number of students enrolled for 1992 to 1993 (PSA) was 23,436. The number of students referred to NTAEA of the total number of students for each group, TA and PSA, also are indicated in Table VI. Percents of referrals are shown in parentheses next to the number of students referred.

As indicated, there were 544 students, 2 percent of the total student population, referred for NTAEA involvement in 1990 to 1991 using the TA. In comparison, there 705 students, 3 percent of the total student population, referred for NTAEA involvement in 1992 to 1993 using the PSA. The data indicate that the number and percentage of referrals increased using the PSA when compared to the TA.

Speech only referrals were those which required only the involvement of a speech and language pathologist. Comprehensive referrals were those which required involvement from any one or all of the following: a school psychologist, a school social worker, and/or a special education consultant. The breakdown of total referrals of the two groups, speech only referrals and comprehensive referrals, is included in Table VI. Of the 544 students referred in 1990 to 1991 (TA), 149 (27%) were considered speech only referrals and 394 (73%) were considered comprehensive referrals. In using the problem-solving approach (1992 to 1993), however, there were 168 (24%) speech only referrals

and 537 (76%) comprehensive referrals of the 705 total referrals made to NTAEA as Table VI indicates. Hence, there was a slight increase in the percentage of comprehensive referral and slight decrease in the percentage of speech only referrals using the PSA.

Question 2

The second question addressed in Part One is as follows:

2. Does the percentage of comprehensive referrals ending in Step III of the traditional approach (i.e., pre-evaluation activities) differ from Step III of the problem-solving approach (i.e., problem-solving meeting)?

The number of students and percentage of comprehensive referrals that exited the referral process at Step III of the TA and the PSA were compared. Expectations regarding question two, were that the number and percentage of comprehensive referrals ending in Step III would increase using the PSA.

Comparisons between the TA and the PSA regarding numbers and percentages of referrals are included in Table VI. As indicated, of the 394 comprehensive referrals using the TA, only 77 (20%) ended the process at Step III. However, 239 (44%) of the 537 comprehensive referrals using the PSA ended in Step III. This represents a substantial increase in the number and percentage of students who were assisted in Step III without an evaluation.

Question 3

Research question three is as follows:

3. Do the traditional approach (TA) and the problem-solving approach (PSA) differ in the percentage of comprehensive referrals that ended the process in Step IV (i.e., consent for evaluation)?

Data on question three were obtained by comparing the numbers and percentages of comprehensive referrals ending in Step IV, consent for evaluation, between the TA and PSA. Expected outcomes were that there would be a fewer number and a lower percentage of referrals in PSA that ended in Step IV.

Results of the comparison between TA and PSA in referrals ending in evaluation are indicated in Table VI. As seen in Table 6, 317 (80%) of the 394 comprehensive referrals in TA were evaluated. In contrast, only 301 (56%) of the 537 comprehensive referrals in the PSA were evaluated. Thus, there was a substantial decrease in the number of referrals evaluated using the PSA.

Question 4

The following is the fourth research question:

4. Do the traditional approach (TA) and the problem-solving approach (PSA) differ in the placement decisions made following evaluation?

Comparisons of the numbers and percentages of referrals evaluated and then placed in a special education program between the TA and the PSA were

completed. A breakdown of the numbers and percentages of students placed in three categories of placements were compiled. The three categories were: (a) instructional program, (b) support service, and (c) both instructional program and support service. Instructional program includes all placements involving special education instruction, such as resource rooms, self-contained classroom with integration into regular classrooms, and self-contained classroom with no integration. Support services, on the other hand, include services provided by NTAEA support staff, such as school psychologists, school social workers, and special education consultants, with no student participation in special education instructional programs. Students placed in a special education instructional program and who receive support services are included in the "both" category. Outcomes predicted for question four were that the numbers and percentages of students placed in special programs and/or support service programs would increase using the PSA when compared to the TA.

Data on question four are included in Table VI. As indicated, 260 (82%) of the 317 students evaluated, were placed in instructional and/or support service programs using the TA. Whereas, using the PSA, 278 (92%) of the students tested were placed in programs when the PSA was used. Therefore, using the PSA a higher number and percentage of students were placed following evaluation.

A breakdown of the programs is shown in Table VI. Of the 260 students placed in programs using the TA, 181 (70%) were instructional programs, 21 (8%) were support service programs, and 58 (22%) were a combination of instructional and support programs. In comparison, of the students evaluated in the PSA, 221 (80%) were placed in instructional programs, 20 (7%) in support programs, and 37 (13%) in a combination of both. These results indicate that a higher percentage of students placed using the PSA, are in instructional programs and approximately the same number and percentage of students using the TA and the PSA receive support services. A lower percentage of students using the PSA were placed in both programs.

Part Two

Question 5

The first research question addressed in Part Two is question five:

5. Does the number of assessment activities, completed prior to evaluation, using the traditional approach (TA) differ from the number of assessment activities, completed prior to evaluation, using the problem-solving approach (PSA)?

A t-test for independent samples was used to determine significant differences between the TA and the PSA for the number of assessment activities completed prior to evaluation. It was predicted that the PSA would have a significantly higher mean of assessment activities when compared to the TA.

Results of the t-test comparison, as well as means and standard deviations are shown in Table VII. As shown in Table VII, the PSA had a statistically significant increase in the number of assessment activities completed prior to evaluation, when compared to the TA (t (98) = -4.44; p< .001). The mean of assessment activities completed prior to evaluation using the problem-solving approach was 1.04 compared to a mean of .26 assessment activities using the traditional approach of the 50 randomly selected files reviewed for each group.

Table VII

t-Tests for Independent Samples for Assessments and Interventions, by Group

Activity	Traditional Approach		Problem-Solving Approach			
	$\bar{X}$	SD	$\bar{X}$	SD	t(98)	p
Assessments	.26	.53	1.04	1.12	-4.44	<.001*
Interventions	3.98	1.84	3.84	2.68	.31	.761

* Significant at the .001 level of significance.

Question 6

The following is question six of Part Two:

6. Does the number of intervention activities, completed prior to evaluation, using the traditional approach (TA) differ from the number of

intervention activities, completed prior to evaluation, using the problem-solving approach (PSA)?

A t-test for independent samples was used to determine significant differences between the TSA and the PSA for the number intervention activities completed prior to evaluation. It was predicted that the PSA would have a significantly increased mean of intervention activities when compared to the TA.

Table VII includes the results of the t-test, as well as means and standard deviations for interventions, by TA and PSA group. As shown in Table VII, there were no significant differences between the TA and the PSA for intervention activities (t (98) = .31; p > .001). The TA had a mean of 3.98 intervention activities and the PSA had a mean of 3.84 intervention activities completed prior to evaluation. Thus, the TA had slightly more intervention activities completed than the PSA. This was contrary to what was expected.

Part Three

Question 7

The first research question in Part Three is question seven as follows:

7. Using the problem-solving approach, are there differences in the number of referrals made to NTAEA staff for: (A) academic concerns only; (B) behavioral concerns only; or (AB) a combination of academic and behavior concerns?

Percentages and numbers of students were compared across the three categories of referral concerns: (A) academic only; (B) behavior only; and (AB) academic and behavior. Predictions for question seven were that the number and percentage of students referred for academic (A) difficulties would be greater when compared to behavior only (B) or academic and behavior (AB) referrals.

Comparisons between the types of referrals are indicated in Table VIII.

Table VIII

Comparisons Between Type of Referral Using the Problem-Solving Approach

Type of Referral	(A) Academic Only	(B) Behavior Only	(AB) Academic & Behavior	Total #
Students Referred	266 (50%)	116 (22%)	129 (24%)	537*
Referrals Ending in Step III Problem-Solving	83 (31%)	80 (69%)	51 (40%)	214
Referrals Evaluated	183 (69%)	36 (31%)	78 (60%)	297
Referrals Placed	152 (83%)	20 (56%)	64 (82%)	236
1. Instructional	123 (81%)	10 (50%)	49 (76%)	182
2. Support	7 (5%)	6 (30%)	5 (8%)	18
3. Both	22 (14%)	4 (20%)	10 (16%)	36

*Note: Twenty-six (4%) of the total students referred were primarily speech and language or motor referrals and did not fit the three categories.

In comparing the types of referrals across referral, test, and placement practices using the problem-solving approach, several interesting findings resulted. As indicated in Table VIII, 266 (50 percent) of 537 students referred were academic only (A) referral concerns; 116 (22 percent) were behavior only (B) referral concerns; and 129 (24 percent) were academic and behavior (AB) referral concerns. Therefore, a majority percentage of the files reviewed using the problem-solving approach were judged to be academic only referral concerns.

Question 8

Question eight of Part Three is as follows:

8. Using the problem-solving approach are there differences in the number of referrals that go to comprehensive evaluation for: (A) academic concerns only; (B) behavior concerns only; or (AB) a combination of academic and behavior concerns?

Comparisons across referral types were made by examining differences in the numbers and percentages of referrals that are evaluated. It was expected that the behavior only (B) referrals would have more referrals ending at Step III (i.e.,, pre-evaluation problem-solving) and fewer referrals going on to Step IV (i.e., evaluation) when compared to the other types of referrals.

Data on the comparisons across referral type for referrals ending in Step III and Step IV are shown in Table VIII. Of the students referred for academic

only concerns, only 83 (31 percent) resulted in problem resolution at Step III of the problem-solving process. Similarly, only 51 (40 percent) of academic and behavior concern referrals ended in Step III. But 69 percent of behavior only referrals were assisted in Step III, therefore eliminating the need for evaluation. On the other hand, a much higher percentage of academic only referrals (69 percent) and of academic/behavior referrals (60 percent) continued on to Step IV, comprehensive evaluation, as noted in Table VIII, as compared to behavior only referrals (31 percent) evaluated.

Question 9

The research question nine in Part Three is as follows:

9. Using the problem-solving approach, are there differences in the number of referrals evaluated that result in special education placement for: (A) academic concerns only; (B) behavior concerns only; or (AB) a combination of academic and behavior concerns?

Of the referrals that were evaluated, the percentages of referrals placed in special education programs were compared across the three types of referrals. A breakdown of referral placements was compared across referral types, also. The referral placements were separated into three categories: (a) instructional program, (b) support service, and (c) both instructional and support service programs. As in Part One, instructional program includes all placements involving special education instruction, such as resource rooms,

self-contained classroom with integration into regular classrooms, and self-contained classroom with no integration. Support services, on the other hand, include services provided by NTAEA support staff, such as school psychologists, school social workers, and special education consultants, with no student participation in special education instruction programs. Students placed in a special education instructional program and who receive support services are included in the "both" category. Outcomes predicted for question nine were that the number and percentage of students placed in special programs and/or support service programs will increase for students referred for academic only concerns.

As seen in Table VIII, when comparing the number of students evaluated who were then placed into either instructional special education programs or given support services, or both, academic only (83 percent) and academic/ behavior (82 percent) referrals were much more likely to be placed in special education programs. Behavior only referrals (56 percent) were less likely to be placed in special education programs. However, if behavior only referrals went on to be evaluated, only slightly more than half were then placed in special education programs.

Part Four

Question 10

The following research question is addressed in Part Four:

10. Which approach in comparing the traditional approach with the problem-solving approach, do professionals, teachers, and administrators prefer using in their work with students?

Survey questions are presented in Appendix F. Group I consists of principals, regular education instructors, and counselors and Group II consists of special education instructors and NTAEA support staff. Chi Square analysis was used to compare ratings of services received by students on question one and two of the survey. Question one and two were compared within Group I and within Group II for significant differences using Chi Square analysis. Comparisons also were made between Group I and Group II, by question one and question two using Chi Square analysis. Question three of the survey was analyzed by making simple comparisons of numbers and percentages between Group I and Group II on the preferred approach: the traditional approach (TA) or the problem-solving approach (PSA).

Expectations for responses on comparisons between survey questions one and two were that ratings for services using the PSA (survey question one) would be significantly increased when compared to ratings for services of the TA (survey question two). Insignificant differences were expected when

comparing Group I and Group II for questions one and two. Survey question three responses were predicted to be substantially increased for preferring the PSA over the TA for each of the two groups.

Question one and question two of the survey were as follows:

1. Overall, how would you rate the services received by students using problem-solving process? A 1-5 Likert Scale was utilized with "Very Unsatisfactory" under 1; "Undecided" under 3; and "Highly Satisfactory" under 5.

2. Overall, how would you rate the services received by students using methods prior to RSDS? (Only respond if employed within AEA 2 prior to RSDS). A Likert Scale of 1-5 with "Very Unsatisfactory " under 1; "Undecided" under 3; and "Highly Satisfactory" under 5 was utilized.

Table IX indicates the means and standard deviations for Group I and Group II on questions one and two of the survey. Ratings were slightly higher for each group in favor of the problem-solving approach in question one (Group I, 3.64; Group II, 3.54), than for ratings in favor of the traditional approach in survey question two (Group I, 3.23; Group II, 3.41). However, all mean ratings were within the "Undecided," (rating of 3) and "Satisfied," (rating of 4) range of response. Hence, educators, administrators, counselors, and NTAEA support staff are similarly undecided to satisfied when it comes to services received by students using either of the two approaches.

Table IX

Comparison Data for Survey Questions One and Two, by Group

Survey Question	Group I		Group II	
	$\bar{X}$	SD	$\bar{X}$	SD
Question 1	3.64	.90	3.54	.87
Question 2	3.23	.82	3.41	.98

Comparisons within Group I for survey questions one and two are shown in Table X.

Table X

Chi Square Comparisons Within Group I and II for Responses to Question One and Two

Group	Chi Square	Value	df	p
Group I Q1 by Q2	Pearson	9.62	16	.886*
Group II Q1 by Q2	Pearson	37.13	16	.002*

* Not significant for p<.001.

As seen in Table X, there were no significant differences within Group I on ratings for survey questions one and two. Table X also indicates comparisons within Group II for ratings on questions one and two of the survey. As shown in

Table X, there were no significant differences within Group II on responses for questions one and two of the survey.

Chi Square comparisons between Groups I and II for responses on questions one and two are indicated in Table XI.

Table XI

Chi Square Comparisons Between Group I and II for Responses to Question One and Two

Group	Chi Square	Value	df	p
Group I and Group II by Question 1	Pearson	1.71	4	.788*
Group I and Group II by Question 2	Pearson	15.71	4	.003*

* Not significant for p<.001.

As seen in Table XI, there were no significant differences between the responses of Group I, question one (mean, 3.64; standard deviation, .90) and Group II, question one (mean, 3.54; standard deviation, .87). Similarly, there were no significant differences between the responses of Group I, question two (mean, 3.23; standard deviation, .82) and Group II, question two (mean, 3.41; standard deviation, .98) using Chi Square analysis.

Finally, survey question three was as follows:

3. Check which process you, as a professional, would prefer using in your work with students. (Only respond if employed within AEA 2 prior to RSDS). Responses provided included "Problem-solving (RSDS)" and "Process prior to RSDS".

Table XII indicates the numbers and percentages of respondents in Group I and Group II indicating preferences for the traditional and problem-solving approaches.

Table XII

Comparisons Between Group I and Group II on Survey Question Three

Group	Traditional Approach	Problem-Solving Approach
Group I	28 (17%)	141 (83%)
Group II	31 (26%)	88 (74%)

As seen in Table XII, of the subjects in Group I (i.e., principals, counselors, regular education teachers) responding to survey question three, 141 (83 percent) of 169 responded in favor of the problem-solving approach as opposed to 28 (17 percent) choosing the traditional approach as a preferred method of service delivery. Group II (i.e., special education teachers and NTAEA support staff) also preferred the problem-solving approach with 88 (74

percent) of 119 preferring the problem-solving approach, and only 31 (26 percent) preferring the traditional approach.

Thus, although there were no significant differences between Group I and Group II in how they responded to survey questions one, two, and three, each group responded to survey question one and two similarly with ratings between "Undecided" and "Satisfied" regarding services provided to students using the problem-solving approach (survey question one) and the traditional approach (survey question two). Results of survey question three, also indicate that respondents of Group I and of Group II appear to prefer the problem-solving approach in their work with students when compared to the traditional approach.

Chapter VI

Discussion

Trends in education and school psychology are leading school psychologists into a new dimension of services provided to students with diverse needs. Movement away from the traditional medical model toward a reciprocal determinism model of service delivery is being encouraged for school psychologists (Reynolds et al., 1984). Consultative problem-solving that is intervention-oriented has been supported in the literature as being an alternative method for responding to student referrals for special education support. Although the concepts underlying problem-solving are logical, little is known about the outcomes of this approach as opposed to the outcomes of traditionally-used approaches.

A summary of the results of the research and conclusions that can be drawn, based on those results are included below. Recommendations for improving the problem-solving approach and recommendations for further research in this area are also discussed.

Part One

One of the foci of this study was determining differences between the traditional approach and the problem-solving approach in the areas of student referral, evaluation, and placement. Results in this area indicate strong support

for the problem-solving approach in reducing the number of comprehensive evaluations completed.

The findings in this part of the study showed that by using the problem-solving approach, the number of referrals increased slightly, and the percentage of students evaluated decreased from 80 percent to 56 percent. This represents a meaningful difference in the number of students who are evaluated using each approach. In addition, 44 percent of the 705 students referred using the problem-solving approach, received assistance during Step III to eliminate the need for comprehensive evaluation. This was compared to 20 percent of the total 544 referrals which ended at Step III using the traditional approach.

Of the student's evaluated, a higher percent in the problem-solving approach were placed in special programs (92 percent) compared to the traditional approach (82 percent). This finding lends support for the problem-solving approach as a good screening device in reducing the number of nonhandicapped students inappropriately placed in handicapped programs. In the less optimistic view, it also may be indicating that school psychologists and school personnel are not doing enough to find ways for serving students who need assistance by other than special education placements. However, Iowa's RSDS provides the freedom for special education teachers to serve students in ways other than the traditional resource model. Although a higher percentage

of students were placed in special programs using the problem-solving approach, many of those students receive services within their regular classroom. A building plan developed by each school district as a part of the Renewed Service Delivery System (RSDS) allows each school to implement special programs differently than the resource room model. For example, some building plans allow special educators to team-teach in the regular classroom as a program to meet the needs of students instead of having the student removed from the regular classroom to receive special assistance.

Overall, these results indicate support for the problem-solving approach in reducing the numbers of students who are tested and placed in special programs inappropriately. The results also lead to the prediction that as school psychologists begin to use approaches such as the problem-solving approach, their role and function in the educational system will change from primarily gatekeeper/tester roles toward a broader, more comprehensive role of serving all students in a variety of ways.

Part Two

Differences between the traditional approach and the problem-solving approach in the number of assessment and intervention activities implemented prior to evaluation were examined in the second part of this study. As predicted, the number of assessments increased significantly using the problem-solving approach, with slightly more than one assessment completed per referral; as

opposed to one in four assessments completed per referral using the traditional approach. Of the assessments completed, classroom observations, curriculum-based measurement and assessment, and rating scales appear to be the most frequently used methods.

An unexpected outcome was obtained in the area of interventions. There were no significant differences between the number of interventions attempted by the teacher in the traditional approach and the number of interventions tried by the problem-solving team in the problem-solving approach as predicted. In fact, out of 50 files reviewed, there were 199 interventions completed (3.98 per file) in the traditional approach as opposed to 192 (3.84 per file) in the problem-solving approach.

Explanations for this outcome are unknown, however, there are several ways that the results can be interpreted. One of the interpretations is that teachers in the problem-solving approach are not required to document pre-referral interventions on the problem-solving form as they did on the pre-evaluation activities form; therefore, if the interventions attempted by the teacher prior to referral for problem solving had been compiled, it would be predicted to have significantly more interventions attempted using the problem-solving approach.

A second interpretation of the results is that the comparisons actually indicate interventions the teacher tried in solo (traditional approach) and

interventions attempted by a problem-solving team of parents, teachers, and NTAEA support staff (problem-solving approach). When viewing these results in conjunction with previously reported comparisons regarding testing and placement, it may be assumed that, although the quantity of interventions was not significantly different between the two approaches, the quality of problem-solving interventions led to effectively assisting a greater percentage (44 percent compared to 20 percent) of students within the regular education setting (see results of Part One).

Part Three

In Part Three, the results revealed that 50 percent of the 537 referrals in 1992 to 1993 using the problem-solving approach were academic only, 22 percent were behavior only, and 24 percent were a combination of academic and behavior referrals (four percent of those referred were eliminated because they had other primary concerns such as speech/language or motor difficulties). A higher percentage of academic only (69 percent) and academic/behavior referrals (60 percent) were evaluated when compared to behavior only referrals (31 percent). Thus, the problem-solving approach appears to work most effectively and successfully assisting students with behavior as opposed to academic difficulties.

Finally, of the student's evaluated, 83 percent with academic difficulties and 82 percent with academic/behavior problems were placed; while only 56

percent of students referred for behavior only concerns were placed in special programs. This substantial difference indicates that students with behavior problems are probably best served implementing problem-solving interventions, with slightly more than one-half of those tested receiving additional services. The other one-half most likely did not receive any assistance whatsoever once the problem-solving ended. Those are the most likely students to go through the problem-solving process again because their needs have not been addressed successfully.

Part Four

The respondents gave strong support for the problem-solving approach as the preferred method of service delivery as indicated on the surveys. Among the different professional groups, regular education instructors, principals, and counselors appear to prefer the problem-solving approach (83 percent) slightly more than special education instructors and NTAEA support staff (74 percent). Statistically insignificant differences between the two groups of professionals and between the two approaches were found on ratings of services received by students for each approach (question one and two). Surprisingly, although the problem-solving approach is preferred to the traditional approach, there were insignificant differences between the traditional approach and the problem-solving approach on ratings of services actually received by students. This may be interpreted to mean that although the problem-solving approach may

change the process in which services are provided, it may not change the quality of the services actually received by the students. Another explanation may be that because the problem-solving approach is new, respondents were undecided about the services provided to students with the problem-solving approach.

Summary

In summary, when compared to the traditional approach of serving students, the problem-solving approach appears to have several positive outcomes. By reducing the number of students who receive a comprehensive evaluation, the problem-solving approach reduces the number of students placed in special education services. This is a positive step in the right direction because the number of students served by a special education is increasing and financial resources available are decreasing (Algozzine & Ysseldyke, 1983). In addition, Reynolds et al. (1987) reported increases in the school-age population in general. Thus, the problem-solving approach is one possible solution in helping to decrease the number of students inappropriately placed in special education programs.

A major contribution of this study is the support it gives to the problem solving approach in changing referral, test, and placement practices. The problem-solving approach also supports the mandates of Public Law 94-142 (1975) especially in providing students with the least restrictive environment.

As the problem-solving approach and similar intervention-oriented approaches are utilized, changes may be seen in how PL 94-142 is implemented.

The problem-solving approach and similar consultation-based approaches appear to keep students who do not need special programs in the least restrictive environment, the regular classroom. It does not, however, keep students in need of additional assistance from receiving special education. Standardized assessment and comprehensive evaluation will continue to be valuable instruments in determining the needs of students using the problem-solving approach.

By focusing on instruction, curriculum, and environmental interventions implemented in the regular classroom, the problem-solving approach and similar intervention-oriented approaches, emphasize the need for regular educators to receive training in meeting the needs of an increasingly diverse population. West and Cannon (1988) discuss competencies necessary for special education and regular education instructors to apply collaborative consultation in working with special needs students in regular classrooms. The REI movement appears to be moving in similar directions, encouraging regular educators to obtain the necessary skills in working with students who have special needs. In their survey, Phillips, Allred, Brulle, and Shank (1990) found that regular educators expressed the willingness to work with students identified as having handicaps, and regular educators' desired for more collaborative

consultation with special education teachers as a method to help further develop their skills. Collaborative consultation has been extensively reviewed in the literature as a method of assisting regular educators in teaching diverse students (Conoley & Conoley, 1988; Idol, 1988; Idol & West, 1987; West & Idol, 1990).

In fact, consultation as a process has been increasingly recognized as a method of service delivery for a variety of professionals. Erchul and Conoley (1991) suggest the consultant role for counselors working in the schools. Similarly, Friend (1988) reported increasing numbers of speech and language pathologists, occupational and physical therapists, and social workers using collaborative consultation in their work.

The timing of the consultation process with intervention-oriented activities appears to make the problem-solving approach successful. Consultation and intervention implemented prior to referral for evaluation appear to be cost-effective in preventing inappropriate evaluations. Pre-referral activities were found to decrease testing and placement rates in three schools studied by Graden et al. (1983). Thus, the findings in this study are supported by similar research in this area. However, it is important to note that the present research is most representative of educational agencies in a rural geographical area. These findings may not reflect urban or suburban school district and educational agency practices.

Other areas influenced by the problem-solving approach consist of broadening the school psychologist's role, working with at-risk and nonhandicapped student populations, and providing data-based decision making in special education placement.

Recommendations

Although the problem-solving approach has many positive outcomes, there is always room for improvement. Ysseldyke et al. (1983) cite the lack of accountability in implementing interventions that are data-based and specific as an area in need of improvement. To increase the integrity of interventions, Gresham (1989) suggested a treatment integrity monitoring plan, which is defined as a plan that monitors "the degree to which a treatment is implemented as planned," to be used to assist in checking whether or not proposed interventions are actually implemented appropriately (p. 37). This type of plan may increase the effectiveness of intervention as well as help monitor treatment integrity.

A second recommendation in using the problem-solving approach used in Northern Trails Area Education Agency(NTAEA) in Iowa, rests in providing inservice training to regular and special education teachers regarding the consultation process. Gutkin (1986) reported that "successful consultation interactions require consultees who are knowledgeable of consultation processes" (p. 375). It is important for consultees (i.e., teachers and parents) to

be actively involved and actively contribute to the process for consultation to be effective (Gutkin, 1986). In addition, professionals who are not typically trained in the area of consultation and yet will be required to perform this service will need to receive training.

A third component in improving the problem-solving approach may be in gaining more administrative support from principals and superintendents to make necessary changes in curriculum and classroom environment. Reynolds and Lakin (1987) offer the Adaptive Learning Environments Model (ALEM) as a school-wide system designed to individualize instruction for all students. In this system, special and regular educators participate in cooperative instruction to teach not only special needs students but all students who are having difficulties. The ALEM is currently being implemented in the schools of Montevideo, Minnesota. Reynolds and Lakin (1987) describe ALEM in the following way:

> An example of the curriculum-based approach is presently provided in an experimental program in Montevideo, a small town in Minnesota. The Montevideo schools have defined their curriculum very precisely in the basic skill areas, particularly in regard to reading and arithmetic...It has a detailed monitoring system to reflect the degree of implementation of the model, a teacher-training system, and a parent involvement program. Systems have been worked out for coordinating the work of regular and

special education teachers in developing comprehensive curricula to teach students with widely ranging levels of ability and academic status (pp.240-241).

In attempting to make the problem-solving process more efficient, it would be important to have a form upon which teachers could write interventions they have attempted in order to help the problem-solving team rule out interventions that were unsuccessful. In addition, the referring teacher could be required to collect baseline data using curriculum-based assessment methods as well as observation rating forms prior to referral.

Finally, it is imperative that, once a child is evaluated and not identified as needing special services, the problem-solving process automatically continues to find ways to address the needs of the student in the regular education classroom. At this point, students who are not placed following an evaluation, have the potential of falling through the cracks and teachers are not given necessary support in attempting to meet those student needs.

In conclusion, prereferral problem-solving activities which are intervention-oriented are making an impact on current test and place practices in school psychology and in regular and special education. As changes in education are made, school psychologists will need to broaden their skills in the area of consultation, interventions, systems analysis, ecology analysis, and nonstandardized assessment. It is important that school psychologists begin to

expand their roles in directions away from psychoeducational assessment to prevent being the "baby" that is thrown out with "bath water" if educational systems move away from standardized tests and eligibility requirements.

Recommendations for Research

Additional research is needed in the following areas of the problem-solving approach:

1. Research in the area of the cost and time effectiveness of the problem-solving approach is needed. As schools look toward finding new ways to meet the needs of their students, there will be interest in finding which model of service delivery and which approach to special needs students is the most cost and time effective.

2. Just as this study compared the traditional approach and the problem-solving approach in the quantity of assessments and interventions, research is recommended in comparing the two approaches on the quality of assessments and interventions. It is important to find which assessment and intervention activities have successful outcomes, in order to utilize those activities with future students experiencing similar difficulties.

3. Recommendations are made for further research in the types of referral concerns (e.g., academic, behavior) most effectively and successfully assisted through a prereferral intervention system, such as the problem-solving approach. As the effectiveness of the problem-solving approach is better understood, it may be used

more effectively in meeting the needs of students who are not succeeding in the regular education setting.

4. Research in the area of training for regular education teachers is recommended. As the problem-solving approach and similar pre-referral approaches are adopted by school systems, it will be imperative for regular education teachers to receive training in serving the diverse needs of students. School psychologists and special education teachers may serve as facilitators in providing the necessary training to regular education teachers.

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Appendix A

SE0689
Special Education Division
Northern Trails Area Education Agency
Box M, Clear Lake, IA 50428
Telephone: (515)357-6125

Copy Distribution:
White ..... NTAEA
Canary ..... Support Office
Pink ..... Building Principal

PRE-EVALUATION ACTIVITIES DOCUMENTATION

Name _____ Birthdate _____ Grade ____ Gender _____
Parent/Guardian _____ Address _____ Phone _____
District _____ Building _____

Chapter 12.16 (2) of the Iowa Rules of Special Education requires that there be attempts to resolve student problems prior to an initial comprehensive evaluation or the collection of pupil-specific data by special education personnel. Therefore, these pre-evaluation activities must be documented on this form at the time that a Request for Conference form is submitted. This form which should be completed by LEA staff must accompany the Request for Conference Form.

Reason For Concern: _____

Documentation of Contact With Parents:

Date	Summary of Contacts
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Documentation of Pre-evaluation Activities

Record all interventions attempted. Include implementor, results and date.

_____
_____
_____
_____
_____
_____
_____
_____
_____

If pre-evaluation activities have not resolved the problem, attach this form to a completed Request for Conference Form.

_____ _____
Teacher's Signature Date Building Principal Date

Date Received _____ by _____
AEA Support Staff

SE0689
Special Education
Division
Northern Trails
Area Education Agency
Box M, Clear Lake, IA 50428
Telephone: (515)357-6125

Copy Distribution:
White ..... NTAEA
Canary ..... Support Office
Pink ..... Building Principal

REQUEST FOR CONFERENCE

NOTE: This is only a request to confer with NTAEA staff regarding a student. The documentation of pre-evaluation activities should be completed and attached to this form.

Name _____ Birthdate _____ Grade ____ Gender _____

Parent/Guardian _____ Address _____ Phone _____

District _____ Building _____

Conference requested by: (name(s)/position) _____ Date _____

Persons present _____ Date _____

Summary of Interview Question Areas:

Area	No Concern	Explore Further	Area	No Concern	Explore Further	Area	No Concern	Explore Further
Adaptive Behavior	_____	_____	Health History	_____	_____	Physical/Motor	_____	_____
Cultural	_____	_____	Hearing	_____	_____	Social/Behavior	_____	_____
Educational	_____	_____	Intellectual	_____	_____	Speech/Language	_____	_____
						Vision	_____	_____

Comments: _____

_____

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_____

RESULTS OF CONFERENCE: ____ NO FURTHER ACTION, ____ NOTICE TO PARENTS OF REGULAR EDUCATION ASSESSMENT AND PROGRAM PLANNING, ____ CONSENT FOR SHORT TERM SUPPORT SERVICES, ____ CONSENT FOR FULL COMPREHENSIVE EVALUATION, ____ ADDITIONAL PRE-EVALUATION ACTIVITIES.

Building Principal _____ NTAEA Case Coordinator _____

Appendix B

Special Education
Northern Trails
Area Education Agency
Box M
Clear Lake, IA 50428
Your Partner in Quality Education

Appendix 1
Copy Distribution:
White.....NTAEA
Canary.....Parent
Pink.....Building Principal
Photocopy.....Support Office

PROBLEM SOLVING SUMMARY
STEP I Completed by Referring Person

Name _____ Birthdate _____ Grade _____
Parent/Guardian _____ Address _____ Phone _____
District and Building _____
Reason for Concern _____
_____
_____
Principal _____ Date _____
Please attach examples or descriptions of previous attempts to resolve student's difficulty.

STEP II Completed by NTAEA Staff

Date Received _____ by _____
Conferring Support Staff _____
_____
Case Coordinator _____ Date Assigned _____
Ancillary Staff Contacted on _____ (date)

STEP III Completed by Case Coordinator
Summary of Problem Solving Consultation(s)

Date _____ Person(s) Attending _____
_____
_____
To be completed by _____ (not to exceed 90 days)

Areas of Concern (Use Referral Questions):

Academic	Yes	No	Health History	Yes	No	Physical Motor	Yes	No
Adaptive Behavior	Yes	No	Hearing	Yes	No	Social/Behavior	Yes	No
Cultural	Yes	No	Learning Strategies	Yes	No	Speech/Language	Yes	No
						Vision	Yes	No

Comments:
_____
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Problem Solving STEP III continued

Copy Distribution:
White.....NTAEA
Canary.....Parent
Pink.....Building Principal
Photocopy.....Support Office

Name _____ Birthdate _____ School District/Building _____

Area of Concern _____

Date	Interventions	Progress monitoring method	Outcome criteria	Implementor	Summary of Results

Confer again _____, _____, _____, _____.

Results of Step III: (circle one) Problem resolved Step IV

Appendix C

REQUEST FOR CONFERENCE - INTERVIEW QUESTIONS

The following areas should be addressed in following up a Request for Conference. The questions under each areas will constitute the minimal amount of information needed, and may be expanded upon at the discretion of the staff member. All areas should be addressed at the time of the conference.

1. Adaptive Behavior:
   Does the student understand and respond appropriately to social situations?

   Is the student able to reliably move in and about school during class changes and when asked to run special errands?

   Does the student exhibit adequate skills for solving real life problems?

2. Cultural:
   Do cultural factors cause this student to function differently from his/her peers?

3. Educational/Academic:
   Does this student academically achieve far below what he/she seems to have the potential for achieving, in any or all subject areas?

   Is this student's achievement significantly below that of his/her classmates in any or all subject areas?

   Does this student show erratic performances across subject areas or from day to day?

4. Health:
   Does this student have any known physical conditions or limitations that could affect performance in school?

   Is this student frequently absent from school?

   Is student currently taking any medication?

5. Hearing:
   Check on current status of hearing in yellow HEARING notebook located in each building., If data is not current, or incomplete, contact audiologist assigned to that LEA or call Hearing Department at NTARA to arrange a hearing screen.

6. Intellectual Ability:
Does this student show a level of aptitude which seems to be considerably lower than other students in the class?

Is this student able to demonstrate evidence of good thinking and good ideas during class discussions?

Do the results of any previous group or individual tests of intellectual ability give evidence that this student has below average intellectual ability?

7. Physical/Motor:
Classroom concerns:

Is there any known or suspected orthopedic or neurological handicap that is interfering with development and performance in the classroom?

Physical Education Concerns (coordinate with P.E. teacher)

Is the student participating in the regular P.E. program?

Is the student able to participate safely in P.E. class?

8. Social/Behavior:
Does this student show age or situation inappropriate behavior along the dimensions of aggression, withdrawal, immaturity, lack of attention, or amount of activity? Describe behavior.

Is this student encountering any difficulties in social and interpersonal relationships with peers? With his/her family?

Does this student indicate that he/she has a personal problem?

9. Speech/Language:
Does this student seem to have problems in the areas of sound production (articulation), voice, or stuttering?

Does this student express his ideas in an appropriate manner (vocabulary, word order in sentences, grammar) in individual and group situations in the classroom?

Does the student demonstrate any delay in responding to questions, difficulty in following directions, or incorporate any irrelevant or ambiguous content into his communicative attempts in the classroom?

10. Vision:
Does this student get unusually close to his work?

Does this student blink excessively, rub eyes frequently, close or cover one eye, and/or appear to have difficulty seeing in class?

Is there a known vision problem not correctable with glasses alone?

Appendix D

Assessments:

Any activity completed by teachers, parents, area education agency staff, or outside agencies to obtain additional information about the referral student. Examples of assessment activities used for this research study are listed:

--screening of general development

--speech and language skills

--hearing

--observations of a student in the classroom, recess, hallway, end of on- and off-task behavior

--referral to an outside agency

--all standardized assessment instruments, criterion-referenced based instruments, and instruments assessing for learning styles

--visual-motor integration, auditory memory/learning, short-term memory /long-term memory assessment instruments.

--concept skills

--vision

--for inclusion in Chapter I program

--interview with parent, teacher, student, medical or outside agencies

--curriculum-based measurement or assessment in math, reading, written language, spelling, capitalization and punctuation; such as for a medical evaluation or the Department of Human Services involvement

Interventions:

Any activity completed by teachers, parents, and/or AEA staff to help alleviate the referral concerns. Examples of activities that were judged to be interventions are listed:

--Chapter or Title I reading program
--Visual Phonics
--Assignment notebook
--Extra help/tutoring/one-on-one attention
--Selective seating arrangements
--Highlighted text or covering numbers
--Structured play activities
--Short-term service with NTAEA support staff
--Partnering with the teacher
--Curriculum-based measurement progress monitoring (CBM 2+ times)
--Recommendations for family counseling or involvement with outside agency
--Partnering with peers
--Counselor's office/principal's office for time-out procedures
--Ignoring inappropriate behavior
--Calculators made available
--Touch Math
--Behavior program with charting
--Additional time in regular education program or Chapter I
--Consequence/reward behavior program
--Reduced assignments
--Friendship groups
--Social skills group
--Behavior-specific reinforcement
--Peer tutoring
--Parent coordination of school activities
--Verbal cues
--Flash cards
--Summer school
--Outlines of class materials provided
--Verbal prompting
--Partner reading
--In- and Out-of-school suspension
--Time-out procedures in the classroom
--Computer programs available

Appendix E

Academic Only:

Referral concerns regarding a students performance in the classroom related to one or more specific subject areas, where the student's behavior is not of primary concern and is not interfering with the student's academic performance. Examples: deficits in one of the following areas: reading, math, science, social studies, spelling, written language, decoding skills, fluency skills, etc.

Behavior Only:

Referral concerns where some aspect of the student's behavior is documented as being of primary concern. Examples of behavior only referral concerns are listed:

--off task behavior
--low attention to task
--low motivation
--"acting out"
--aggression
--hitting/kicking/pushing
--spitting
--nonacceptance of consequences for actions
--withdrawal
--nonparticipatory
--social skills difficulties
--interruptions
--interfering behaviors

Academic/Behavior:

Referral concerns were a combination of academic concerns (by above definition) and behavior concerns (by above definition) are both part of referral and both presented as primary concerns.

Appendix F

The survey questions used in Part Four are as follows:

1. Overall, how would you rate the services received by students using the problem-solving process?

1	2	3	4	5
Very Unsatisfactory		Undecided		Significantly Satisfactory

2. Overall, how would you rate the services received by students using methods prior to RSDS? (Only respond if employed within AEA Two prior to RSDS).

1	2	3	4	5
Very Unsatisfactory		Undecided		Significantly Satisfactory

3. Check which process you, as a professional, would prefer using in your work with students. (only respond if employed within AEA Two prior to RSDS).

_____ Problem-solving (RSDS)

_____ Process prior to RSDS