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Process and product in prereferral intervention: A study of planning, integrity, and outcome

McKee, William Treen, Ph.D.

The Louisiana State University and Agricultural and Mechanical Col., 1991
PROCESS AND PRODUCT IN PREREFERRAL INTERVENTION:

A STUDY OF PLANNING, INTEGRITY, AND OUTCOME

A Dissertation

Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the degree
Doctor of Philosophy
in
The Department of Psychology

by

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Abstract

The purpose of the study was to obtain data on the intervention planning processes engaged in by prereferral intervention teams, primarily, through a focus on the verbal processes of teacher and committee team member interactions. Teacher and committee participation in the prereferral intervention planning process was operationalized in terms of the frequency of teacher and committee verbal interactions, in terms of numbers of questions, responses, and initiated comments made by each, as well as teacher and committee speaking time. Results of analysis of these data revealed that teachers asked few questions and initiated relatively few comments in comparison with their committee colleagues. Teachers also had a smaller share of the total meeting interaction time in comparison with their committee counterparts.

Results of analyses of content and process data from the consultation analysis record (Bergan, 1977) indicated unequal distribution of teacher and committee information seeking and information giving behaviors parallel with other participation indices. Overall, meeting interactions focused on intervention relevant topics, rather than topics hypothesized to be irrelevant to the implementation of intervention plans (Gutkin & Curtis, 1980).

The results of correlational analyses involving indices of active teacher involvement and measures of satisfaction
with the process and outcomes of intervention planning meetings indicated little relationship between teacher satisfaction and active involvement in the planning process as operationalized in the present study. However, more specific features of teacher and committee verbal interaction during meetings did provide substantial information relevant to the perceptions teachers have of both the prereferral intervention meeting process and overall meeting results. As expected, teacher perceptions of intervention acceptability and teacher consumer satisfaction with the intervention planning process were related to amount of attention committee and teachers give to specific topic areas. However, some outcomes were counter to what was anticipated given previous research and the results are discussed in terms of their implications for the existing literature, given the limitations of the present study.
Throughout the course of the past two decades, the public schools have assumed far greater responsibility than ever before for meeting the diverse developmental and educational needs of youngsters. Landmark federal legislation in 1975 (P.L 94-142, The Education for All Handicapped Children Act) mandated public education for all children regardless of handicapping condition. The following decade saw the increasing inclusion of many children who were previously segregated and institutionalized, and an increased emphasis placed on individualization of instruction for students with learning and behavior problems (Will, 1986). However, the entrenchment of funding under the federal special education mandate has not only resulted in the anticipated desegregation of severely handicapped youngsters but also an even more fantastic growth in referrals from regular education and the resultant increase in numbers of mildly handicapped youngsters served by special education. Despite, and perhaps even because of the ever increasing popularity of special education, many critics have focused attention on the need for reform in current educational practice which overidentifies children as handicapped in order to provide needed educational programs rather than
adapting instruction in the regular education classroom.

Some critics have called for the complete abandonment of the current special education service delivery system (Gartner & Lipsky, 1987), while others have proposed the restructuring of general and special education under the Regular Education Initiative (REI) (Will, 1986), or other alternative educational models (Huefner, 1988; Idol, 1988, 1989; Idol, Paolucci-Whitcomb, & Nevin, 1986; Pianta, 1990; Reynolds & Wang, 1983). Parallel with these calls for broad educational reform have been specific criticisms of the referral, assessment, and placement processes undertaken in support of children suspected of being handicapped (e.g., Saffran & Barcikowski, 1984; Salvago & Teglasi, 1987; Ysseldyke 1986). In this regard, critics have questioned the appropriateness of many referrals, the validity of assessment instruments and strategies used in the diagnostic process, and finally, the benefits to children of placement in special education.

The prereferral intervention model has developed, in part, as a result of valid criticisms of current practice and, in part, out of a trend developing in special education toward indirect service delivery through consultation and regular classroom intervention (e.g., Rosenfield, 1987). The inclusion of prereferral intervention procedures has been widely accepted as an appropriate initial step in the special education service delivery system (Carter & Sugai,
Despite the lack of a base of empirical support to direct the development of effective methodologies, prereferral intervention has been implemented in most educational jurisdictions in the U.S and many areas of Canada. This is largely a result of the heuristic appeal of the concept, with the goals of prereferral intervention being stated as (a) the identification of successful interventions to help students remain in regular classrooms, thus decreasing inappropriate referrals (and placements) in special education, and (b) to provide relevant, data-based information to increase the validity and effectiveness of the assessment and decision-making processes (Graden, Casey, & Christenson, 1985).

A review of literature related to the development of a model of prereferral intervention and initial results of implementation are presented below. First, a brief review of the research which has provided a context for the development and acceptance of a prereferral intervention component in special education service delivery is presented. A model of prereferral intervention is described next. Following that description is a review of the current research base related to the nature and effects of prereferral intervention. Finally, several important issues relevant to the study of effective implementation of prereferral intervention models are then explored in terms of parallel empirical support in the behavioral consultation
and classroom intervention literature.

**The Context for Growth of Prereferral Intervention**

Referral for special education assessment is a significant determinant of whether a student is educated in the regular classroom or joins the burgeoning ranks served in the "special education" system (Algozzine, Ysseldyke, & Christenson, 1982). Each year some 3% to 5% of the entire school population in the U.S. is referred for assessment and placement in special education programs. Algozzine, Ysseldyke, and Christenson (1982) found that nationally in the United States an average of 92 percent of students referred for evaluation are tested, and of those, an average of 72 percent are declared eligible for special education services. In the 1985-1986 school year alone, over 4 million students between the ages of 3 years and 17 years of age were identified as being eligible to receive federally mandated special education services. Of this number, approximately 3 million children received all or most of their education outside the regular classroom, in settings ranging from resource and separate classrooms, to correctional facilities and hospitals (U.S. Department of Education, 1987). Despite, and perhaps because of the apparently increasing need for special education services, some educators have questioned whether special education should provide direct services to all students with learning and behavior problems (Bilken, 1985; Graden, Casey, &
In fact, nearly every aspect of the process including referral practices, assessment instruments and methods, the procedures used in making decisions regarding qualification and placement, and even in the quality of educational opportunity available to children once placed within special education, all have come under scrutiny and frequent criticism in recent years (e.g., Bus & Kruizenga, 1989; Gartner & Lipsky, 1987; Gerber & Semmel, 1984; Lynch & Beare, 1990; Reynolds, Wang, & Walberg, 1987; Tymitz, 1984). The focus for much of this criticism of current practice is the sizable cost of multidisciplinary assessment which is oriented toward confirming decisions about children through assessment and the subsequent overidentification of children in various mild handicapping conditions. The issue implicit in these criticisms is whether these children ought to have been referred in the first place.

Prior research provides a bleak picture of the traditional assessment process as being one of referral to placement. The decision to refer a child for assessment leads almost automatically to what Sarason and Doris (1979) describe as "the search for pathology", a search which almost inevitably results in placement in special education. In a recent study comparing the evaluation data of 95 students referred for assessment for learning disabilities, Vance, Bahr, Huberty, and Ewer-Jones (1988) found only 33%
of the variance in placement decision was accounted for in the assessment data used to qualify students as learning disabled. This finding is surprising in that the mandated guidelines for qualification as learning disabled were stated in terms of the same data used in their analysis. These results essentially replicate the findings of an earlier study (Algozzine, Ysseldyke, Christenson, & Thurlow, 1983) which found the assessment data from a significant numbers of children previously identified as learning disabled to not be consistent with qualification in that category. Shinn, Tindal, Spira, and Marston (1987) studied the reading performance of over 500 students referred for assessment as learning disabled. They found no significant differences between the performance of children found learning disabled and "slow learners". System-level norm data revealed, however, that "for every referred student, a substantial number in the normative population performed similarly" (p. 203) and that the crucial difference between those labeled learning disabled and those not was who was referred. This "bias" in referral results in overidentification or misidentification of many students who fail to meet eligibility criteria specified in state or federal regulations. Some authors have speculated that as few as half of the students presently identified as learning disabled meet commonly accepted eligibility criteria (Shepard, Smith, & Vojir, 1983). A recent study
investigated the issue of bias in assessment decisions directly (O'Reilly, Northcraft, & Sabers, 1989). In that study, school psychologists evaluated the simulated same case data differentially according to whether the fictitious child was referred for "Learning Disabilities" or "Gifted" assessment. It has been demonstrated repeatedly that using traditional assessment procedures many children are referred, assessed, and placed in special education classes using costly and complex procedures which are unreliable and which have questionable validity and treatment utility (Reschly, 1988; Ysseldyke, 1987). The alternative of providing prereferral intervention in regular classrooms looks very appealing in this light, particularly if such interventions result in more appropriate programming for children in regular classroom settings.

**A Model for Prereferral Intervention**

The term prereferral intervention is attributed to Graden, Casey, and Christenson (1985), although an earlier research report had detailed the effects of pre-referral interventions on referral rates and teacher attitudes (Graden, Casey, & Bonstrom, 1983). As Graden asserts, however, the process described in the prereferral intervention model was not entirely new, but rather shared a common history with the that of collaborative consultation (Graden, 1989b). The prereferral intervention model views student learning and behavior problems from an ecological
perspective which means student difficulties may be the result of not only student variables but also elements of the student's instructional and social environment. It follows then, that appropriate interventions may focus on any, and often several elements of the student's environment including changes in instructional methods, adaption of curriculum materials, modification of behavior management procedures, instruction in specific areas of student weakness, or changes in home-school communications to name a few. The model directs resources at providing intervention assistance to the classroom teacher at the point of initial referral, prior to consideration of any request for formal referral and assessment.

Graden, Casey, and Christenson (1985) described a prereferral intervention model involving four stages of activity prior to formal referral. The essential elements of the model are the initiation of a teacher consultation and implementation of a classroom intervention prior to a decision by the child study team on initiation of a request for formal evaluation. An outline of the Prereferral Intervention Model is presented in Figure 1. According to this model, consultation between the classroom teacher and a consultant follows from a request for consultation. The consultation session in this model proceeds in line with the behavioral consultation model (Bergan & Kratochwill, 1990). In the context of the initial consultation the consultant
Figure 1. Prereferral intervention model.

Adapted from Graden, Casey, and Christenson, (1985).
establishes a positive, collaborative, problem-solving relationship with the teacher, then assists the teacher in specifying the reason for referral in objective measurable terms. Once the problems are identified they are prioritized and discrepancy between current student performance and desired level is established. Relevant classroom variables are analyzed as to their impact on the discrepancy between current and desired performance. Taking into account the variables analyzed, the teacher and consultant work collaboratively to design an intervention which may include the student, parents, the teacher, or other school personnel. Complete intervention plans include a description of the behavior to be changed, a statement of criteria for success, any alternatives strategies to be attempted, responsibilities of those implementing the plan, a method for data collection, and a procedure for evaluation of the effects of the intervention. Interventions are implemented by the teacher and the effects of intervention are evaluated. If the initial intervention plans are not successful, the next stage of the process involves detailed observation of the student in the pertinent settings of concern. The data from these observations provide information for further intervention planning which occurs in an additional consultation session. The final stage of the model involves a formal review of intervention results with a child review team. This review provides a forum in
which data from the interventions are shared, and a decision is made to continue with intervention, to further modify interventions or to refer the child for formal assessment.

The prereferral intervention model described above includes all of the elements of the behavioral consultation model but differs from a consultation model of service delivery in one significant way. Consultation in its usual form is a request for assistance in solving a problem (Chandler, 1980; Cipani, 1985; Conoley, & Conoley, 1982, 1988). The consultative relationship is entered into voluntarily and the results of consultation have no direct impact on referral decisions (Chalfant & Pysh, 1989; Chalfant, Pysh, & Moultrie, 1979). The initial contact in the prereferral intervention model, although framed in terms of a request from the teacher for a consultation, is functionally an initial request for referral to special education assessment. At the final stage, as well, where the intervention data are reviewed, a decision is made regarding the appropriateness of the referral for formal assessment. This potentially subtle difference between the prereferral intervention model and a behavioral consultation model may have considerable impact at every stage of the prereferral intervention model. Potential effects include, but are not limited to, the type and frequency of requests for consultation, teacher and consultant involvement in the intervention planning process, teacher satisfaction with the
process and outcomes of the prereferral intervention consultation, quality of the interventions developed, and integrity with which the planned intervention is implemented. These variables have not been addressed systematically in current research in prereferral intervention or in the behavioral consultation literature.

Other implementations of the prereferral intervention model differ in terms of the type of individual(s) involved in the consultative process. A recent survey of prereferral intervention practices across state departments of education indicated that responsibility for planning interventions most often was assumed by classroom teachers (Carter & Sugai, 1989). About half of the respondents to the survey indicated involvement of a consultant or psychologist in the design of interventions, and half indicated involvement of a team of individuals including multidisciplinary and teams responsible for developing individualized special education programs, building level committees, and child study teams. In almost every case, however, responsibility for implementation of the prereferral intervention was assumed by the regular classroom teacher. In a survey of 39 classroom teachers' use of prereferral interventions Pugach (1985) found 36% sought the aid of specialists in designing interventions, and that 43% implemented interventions which were considered intensive and specific to the child difficulty.
Prereferral Intervention Outcomes

Few reports of outcomes of prereferral intervention have appeared in the literature, despite the popularity of the concept and, most surprisingly, despite the mandate for including prereferral intervention in special education assessment across so many jurisdictions. The outcomes of eight published prereferral intervention studies are presented below. Although these studies are all focused on outcomes of prereferral intervention, the models implemented in each study and the outcome variables are not directly comparable.

Graden, Casey, and Bonstrom (1985) presented data on the success of the prereferral intervention model in 6 schools over a one-year period of implementation. Results of the implementation model were mixed when evaluated in terms of effects on decreasing formal referrals for special education assessment. In 4 of the 6 schools requests for consultation increased, and referrals for formal assessment decreased. Fewer children were placed in special education in comparison with data from pre- and post-implementation. In the two remaining schools the prereferral intervention model did not appear to be effective in decreasing referrals. The authors attributed the lack of success of the model in those settings to several system-level factors which constrained the full implementation of the model. These constraints included, in particular, a lack of
administrative support and inadequate provision of time and resources to prereferral intervention procedures.

An earlier report by Ritter (1978) indicated that implementation of a consultation-based service delivery model resulted in decreased referral rates in eight elementary schools over a 7-year period. Data were not reported on effects of implementation on child behavior change, or how assessment and placement rates were affected by implementation of the model. However, Ritter did conclude that one result of the consultation service was increased skill in handling classroom problems on their own.

Similar reductions in referral rates were reported by Lennox, Hyman, and Hughes (1988) in a six-year project instituted in all schools in an entire school district and included 13 child-study teams. The authors reported a reduction in rates of full evaluations from, 99% of those initially referred being tested, prior to program implementation to, 83% and 63% of referrals resulting in full evaluations in each of the successive years of program implementation. Surveys of child study team satisfaction with the process at the end of each year of the program indicated general satisfaction with the program. Referring teachers were not surveyed regarding their reactions to the process or the outcomes of the prereferral intervention model.

In an application of a consultation-based prereferral
intervention program instituted in one school over a two-year period Ponti, Zins, and Graden (1988) reported that referrals for special education assessment decreased 40% over the previous 3 years, and that requests for consultations increased six-fold. Questionnaire data completed by teachers who had used the program indicated that 90% had implemented the strategies developed during consultation. Additional ratings by teachers indicated positive attitudes to the prereferral intervention process, and a belief that their problem-solving skills had improved as a result of the process.

Two studies have reported implementation of prereferral intervention using successively inclusive forms of behavioral consultation (Fuchs & Fuchs, 1988; Fuchs, Fuchs, Bahr, Ferstrom, & Stecker, 1990). In the initial investigation, three experimental groups of consultant-teacher pairs implemented successively more complete versions of behavioral consultation. More inclusive versions which included not only problem identification and analysis but also plan implementation and evaluation led to greater reductions in problem behavior ratings completed by teachers. One intriguing finding was that observational data did not corroborate the teacher ratings. Teachers in the most inclusive group, those who saw the consultant most frequently, gave the child more positive ratings than did observers. The second study (Fuchs, Fuchs, Bahr, Ferstrom,
& Stecker, 1990) involved several additional measures of child behavior change as well as a measure of integrity of implementation of daily monitoring procedures. Findings of this investigation included the finding that more inclusive versions of the behavioral consultation model promoted more positive student outcomes than did less inclusive forms. When consultation was restricted to verbal interaction between the consultant and teacher planning the intervention, less change occurred in the target child than when the consultant was actively involved in classroom observation and providing corrective feedback to the teacher during implementation. This finding was present across several measures of child behavior change. The authors reported high treatment integrity across conditions and speculated that the level of observed integrity likely affected the effectiveness of treatments. They speculated in turn that the presence of graduate student assistants conducting frequent observations and other data gathering tasks helped to increase integrity of implementation of required monitoring procedures and data sheets. No formal test of this hypothesis was undertaken in the investigation.

One study has investigated the nature and outcomes of prereferral intervention at a national level. The survey of state directors of special education conducted by Carter and Sugai (1989) asked respondents to indicate the degree to which prereferral interventions are successful. Of 49 state
directors who responded, 2 indicated that interventions were usually successful, 24 indicated "sometimes", 1 "rarely", and 13 responded they had no basis for determining the success of prereferral interventions. Unfortunately the survey did not report differential outcomes in terms of differences between types of prereferral intervention models or between states that required prereferral intervention versus states where participation was voluntary.

Teacher perceptions of the prereferral process have also been investigated. Harrington and Gibson (1986) reported on a survey of 41 teachers who had referred children for prereferral intervention prior to assessment for learning disabilities. A 25-item rating scale was used to assess teachers' perceptions of intervention recommendations suggested by the team, qualities of the team members and how well they met the teacher's needs, and perceptions about the prereferral intervention process and their part in it. Teacher responses indicated they were satisfied with the interactions they had with the team members themselves; however, they felt the recommendations from the team were not successful in correcting the referral problem. Some teachers responded that teams failed to provide new ideas and generally did not explore a sufficient variety of intervention options. In terms of implementation issues, 15% of the sample reported not implementing the interventions, and 27% were unsure whether they had
implemented interventions as planned. Interestingly, about 50% of the teachers felt the team was unable to assist them with the referral problem. Teachers also reported the interventions recommended by the prereferral team were the same interventions they had already implemented prior to meeting with the team. Teacher attitudes toward preassessment procedures were also surveyed by Inman and Tollefson (1988). Their findings indicated older, more experienced teachers and those who had experience with preassessment procedures had significantly more negative attitudes toward the process than did younger teachers and those who had little experience with the process. Overall, teacher attitudes toward the preassessment process was negative. Teachers reported the interventions were similar to those they had already attempted and that generally they were unsuccessful in remediating the referral problem. Clearly, there is a need to extend the applied research agenda to include the study of prereferral intervention (Lloyd, Crowley, Kohler, & Strain, 1988).

In summary, one of the major goals of prereferral intervention as stated earlier is to decrease the rate of inappropriate referral to special education through the active involvement of regular classroom teachers in the planning and implementation of successful interventions in their classrooms (Moore, Fifield, Spira, Scarlato, 1989). The logic of the approach is that the student who does not
benefit from regular classroom intervention may need more specialized support and may benefit from formal assessment through referral to and potential placement in special education. Thus children's needs might be better met in their regular classrooms, and rates of overidentification will be reduced. This logic is, at best, tentatively supported in the research reported above. We have little direct evidence that the use of prereferral interventions decreases the number of referrals for special education, and virtually no evidence that the accuracy of identification has been improved. A crucial issue which has not been addressed in this, as yet sparse literature is that we have no data to demonstrate that the failure of children to improve within prereferral intervention is properly attributable to exceptional qualities of the child. When researchers have attempted global evaluations of prereferral intervention effects, they have done so with no or little direct evidence that the interventions central to these evaluations ever occurred. Alternative hypotheses for child failure to improve might include the effects of low treatment strength or inappropriateness of the intervention for the identified problem, limited success of the planning process in providing classroom teachers with an active part in developing interventions, and low levels of integrity of prereferral intervention implementation.

Prior research on the use of prereferral interventions
in assessment provides an incomplete picture by its inattention to (a) teacher participation in and reactions to the prereferral intervention planning process, (b) nature of interventions developed, (c) level of integrity of intervention implementation, and (d) the effects of differing levels of implementation on intervention outcomes, including the degree of child behavior change. The current research base in support of the use of prereferral interventions is restricted to findings of reduced referral rates, and has not established the effects of program implementation on other more directly measurable effects such as child behavior change.

In the next section selected areas of research in school-based consultation processes and outcomes are reviewed. In this review the primary focus is on those areas of school-based consultation research which relate most directly to the prereferral intervention process and which are likely to provide insights into the planning, implementation and effectiveness of prereferral interventions.

Consultation Processes and Outcomes

Recent reviews of the literature on consultation with classroom teachers have identified several areas which have been shown to have significant impact on the success and outcomes of consultation (Alpert & Tractman, 1980; Alpert & Yammer, 1983; Bergan, 1977; Cleven & Gutkin, 1988; Curtis &

Although findings in the consultation literature may not be directly applicable to the prereferral intervention model, many of the same issues are likely to find important parallels in prereferral intervention (Myles & Simpson, 1989). In light of the availability of extensive reviews of the consultation literature, the scope of this review will be restricted to three areas which have frequently been identified as particularly important to the successful outcome of consultation, namely the verbal interaction processes which occur during consultation interviews, intervention acceptability and consumer satisfaction with the process, and integrity of intervention implementation (Curtis & Meyers, 1988; Gresham & Kendall, 1987; Polsgrove & McNeil, 1989; Pryzwansky, 1986; West & Idol, 1987).

**Verbal interaction in consultation**

Researchers who have studied the verbal interaction process of consultation have found consultee/client verbal interactions during consultation are significantly related to the verbal behaviors engaged in by the consultant during
the consultative interview (e.g., Bergan, 1977; Bergan & Tombari, 1975, 1976; Erchul, 1987; Horton & Brown, 1990; Martens, Lewandowski, & Houk, 1990; Tombari & Bergan, 1978). A related and consistent finding is that the verbal behavior of the consultant and consultee during the consultation interview has significant effects on several out-of-session outcomes (Erchul & Chewning, 1989; Martens, Lewandowski, & Houk, 1990; Witt, Erchul, McKee, Pardue, & Wickstrom, in press). Researchers have found significant relationships between the verbal behavior engaged in by consultants and therapists and the within-session verbal behavior of their consultee/clients across a wide variety of settings studied from diverse perspectives (Witt, 1990).

One of the earliest accounts of verbal interaction research in consultation (Bergan & Tombari, 1975) called for the development of investigations which would "relate consultant verbal behavior to consultee verbal behavior and to specific actions taken by the consultee" (p. 225). The authors identified as particularly important, the need for studies which ascertain the relationship between indices of effectiveness and the extent to which consultation plans are implemented, and the extent to which these relations are influenced by consultant and consultee verbal behavior during consultation. Several researchers since that time have addressed parts of the research agenda identified by Bergan and Tombari (Bergan & Tombari, 1976; Erchul, 1987;
Tombari and Bergan (1978) investigated the effects on consultation outcomes of the use of "medical model" versus "behavioral" cues by consultants during interviews with teachers. Teachers who were in sessions where behavioral cues were used recorded higher expectancies for being able to solve the referral problem than did teachers who were in sessions where medical model cues were used. The researchers also found in subsequent interviews that teachers in the behavioral cues condition were better able to define problems in behavioral terms.

The effect of within session verbal behavior has also been relate to the level of teacher involvement in crucial elements of the intervention planning process (Bergan & Newman, 1980). Teachers who were asked rather than told were 14 times more likely to identify and use resources in carrying out an intervention plan.

A recent study (Martens, Lewandowski, & Houk, 1989) investigated the relationships between consultant and consultee verbal behavior and their effects on consultee’s perceptions of the consultation session. Results of this study indicated favorable ratings on the part of the consultee were related to the number of consultee inference
statements, consultant positive validation statements, and consultee statements about behavior that were followed by consultant positive validation statements.

Bergan and Tombari (1976) found that consultant use of statements in specific areas of content (setting, behavior, observation, and plan) and particular verbal processes (specification, summarization, and validation) resulted in improved problem definition and subsequent plan implementation.

Similar findings have been reported in the therapeutic literature as well. Using a verbal content coding system Patterson and Forgatch (1985) have shown that the use of particular categories of verbal content in therapeutic interviews with parents had consistent and significant effects on the verbal behavior of the parent-clients in those interviews. Specifically, the use of "confront" and "teach" statements by the therapist was often followed by "resistant" parent behavior; whereas, "empathic" and "support" statements on the part of the therapist often led to "nonresistant" behavior on the part of the client.

Erchul (1987) studied the verbal interactions of 8 consultation dyads over three consultations sessions using a measure of topic control referred to as dominance. Dominance scores reveal the number of bids for control of the interaction that are accepted by the other party. Erchul found that for all eight dyads, consultants
controlled the interactions throughout and across consultation sessions. This finding would suggest the consultants and consultees in this study assumed consistent roles; the consultant controlled the interactions by setting the agenda and the consultee supporting that role by accepting the agenda as set. This study, as well as several others, also investigated the effects of within session verbal behavior on outcome of the consultation process. In the Erchul (1987) study dominance scores were found to be positively related to consultee perceptions of consultation. Erchul and Chewning (1989) found a significant, negative relationship between the level of consultee questions during consultation and subsequent ratings by the consultant of consultation outcomes. Overall, requests or questions by consultants were significantly more frequent that by consultees by a ratio of 9:1, and bids for control of the consultation content were much more readily accepted by consultees than by consultants. Consultations were rated more positively when the consultant was more dominant and the consultee more submissive in terms of establishing control of meeting content.

Witt, Erchul, McKee, Pardue, and Wickstrom (in press) reported findings similar to those of Erchul and Chewning (1989). In the Witt et al. study, degree of topic control by the consultant in school consultation verbal interactions was positively related to consultee ratings of consultation
effectiveness. Overall, consultants had significantly more control over the consultation interviews than did consultees.

In a study of parent participation in initial placement/IEP meetings, Vaughn, Bos, Harrell, and Lasky (1988) reported generally low levels of parent verbal interaction in meetings, yet parents were satisfied with the meetings and had few additional questions to be addressed. Parents spoke on average only 15% of the time and asked questions less than 1% of the time. This finding replicates the results of an earlier study of parent participation in IEP staffings and degree of satisfaction with the process (Witt, Miller, McIntyre, & Smith, 1984). Witt and his colleagues found that parent participation accounted for only 7% of the variance in parent satisfaction.

Pugach (1982) investigated the involvement of regular classroom teachers in the planning IEP’s for children. The regular classroom teachers studied in this investigation seldom had significant participation in IEP meetings. In studying the relationship between involvement in the planning process and implementation of the IEP, however, Pugach found only a slight positive correlation. Presumably this correlation is attenuated by the finding of consistently low levels of both involvement in planning and utilization of IEP’s.

In a study of the decision-making processes undertaken
in multidisciplinary teams, Yoshida, Fenton, Maxwell, and Kaufman (1978) found that meeting participation was strongly and positively correlated with satisfaction with the process. Particularly relevant was the finding that regular education teachers were the least involved participants and the least satisfied with the process. School psychologists were the most frequent contributors and the most satisfied participants. Yoshida et al. related the importance of this finding to earlier work in organizational psychology which suggested that individuals have a higher probability of carrying out decisions which they have made or been part of than decisions which have been made for them (Bass & Leaved, cited in Yoshida, Fenton, Maxwell, & Kaufman, 1978). These authors concluded that, consistent with theory, participation was related to member's satisfaction with a decision and commitment to execute that decision. This finding is quite consistent with the findings of Bergan and Newman (1980) described above.

In sum, the literature on verbal interaction in consultation indicates that consultants and consultees appear to have different roles in consultation interviews, with consultants directing content and asking questions and consultees following the lead set by consultants. Consultees and consultants verbal behavior in consultation appears to have significant relationships with several out-of-session variables, including satisfaction with the
process and willingness to follow through with planned interventions. The literature is unclear about the interrelationship of within-session verbal behavior of consultants and consultees, immediate outcomes in terms of satisfaction, and actual implementation of interventions. In order to provide further validation of the importance of within session verbal behavior and satisfaction with the process, research must address its link with actual implementation. This is consonant with the Gresham and Kendall's (1987) critique of the consultation literature as being methodologically weak because "it has not been conceptualized in a methodological framework which would allow for interactions between key variables in consultation nor the directions of influence these variables have upon the outcomes of consultation" (p. 312).

**Intervention acceptability and satisfaction**

The acceptability of interventions and consumer satisfaction with intervention procedures have been cited as crucial constraints on the selection and implementation of interventions and the eventual success of consultation outcomes (Elliott, 1986). This literature is particularly pertinent to the study of prereferral intervention because it has attempted to develop model which relates important aspects of intervention characteristics and their effects on treatment outcomes. Recent reviews of the intervention acceptability literature attest to the breadth of interest
in these factors, as well as the their potential importance for application to the study of prereferral intervention (Elliott, 1988; Reimers, Wacker, & Koeppel, 1987; Witt & Elliott, 1985). Kazdin (1981) first defined treatment acceptability as "judgements by laypersons, clients, and others of whether treatment procedures are appropriate, fair, and reasonable for the problem or client" (p. 493). Acceptability as conceptualized by Kazdin and extended by Witt and his colleagues refers to the pretreatment impressions of a potential consumer, and parallels the concept of consumer satisfaction as posttreatment impressions. In fact, the measurement of pretreatment acceptability has been conceptualized as an "attitude pretest", an important construct in the context of research on consumer satisfaction with behavior therapy (Kiesler, 1983). A basic impetus for the study of intervention acceptability across intervention contexts has been the assumption that:

An individual's subjective evaluation of a treatment may effect whether it is implemented properly, whether it is effective (or perceived to be effective), the length of time it will be used or whether it will even be used at all. (Witt & Elliott, 1985, p. 25)

Thus consumer satisfaction reflects consumer impressions of their experiences with a process or an intervention, whereas
intervention acceptability may have a part in determining whether the consumer ever experiences the intervention. Witt and Elliott (1985) proposed a "working" model of acceptability (see Figure 2) that proposed the interrelationship among four elements of intervention: treatment acceptability, treatment use, treatment integrity, and treatment effectiveness. In this model acceptability is seen as the initial issue in treatment selection. A positive relationship is proposed between acceptability and use; treatments that are judged acceptable are likely to be used, those seen as unacceptable are less likely to be used. Treatment integrity is proposed as a link between use and effectiveness. Treatments that are implemented with high integrity are likely to be more effective, than interventions in which crucial elements are missing, or administered less frequently than required or planned. Posttreatment acceptability, or consumer satisfaction is likely to be affected by the degree of effectiveness of the intervention as it was implemented, as well as by characteristics of the intervention as it was experienced (Kiesler, 1983; Lebow, 1982; McMahon & Forehand, 1983, 1984). Reimers, Wacker, and Koeppel (1987) extended the treatment acceptability model (see Figure 3) in order to explicate many of these interrelationships and to highlight the effects of treatment knowledge on acceptability and compliance (integrity). In the Reimers' et al. model,
treatment knowledge is proposed as a primary factor affecting the level of compliance with treatment plans. Treatments that are not well understood have little likelihood of being implemented with high integrity. Presumably, acceptability would not be predictable in this case, but would none the less have an effect on the level of integrity of implementation. In this context, an intervention that is poorly understood and judged by the consumer as unacceptable has little chance of being implemented with any degree of integrity and even less chance of having predictable therapeutic effects. Both models have heuristic value, although neither model represents a comprehensive description of relationships established in the current body of acceptability literature. Presented below is a brief review of current findings in acceptability research.

The major body of acceptability research has focused on four questions (Elliott, 1986): (a) differential acceptability of specific treatments and elements of treatment, (b) the influence of variables related to the eventual target of intervention (e.g., child characteristics, problem type, severity of problem), (c) the influence of variables related to the treatment agent (e.g., years of teaching experience, knowledge of behavioral principles), and (d) relationships between rated acceptability and evaluations of posttreatment
effectiveness. Two measures of treatment acceptability figure prominently in this research, the Treatment Evaluation Inventory (TEI) developed by Kazdin (1980a) and the Intervention Rating Profile (IRP) developed by Witt and Martens (1983). Both the TEI and IRP have been used extensively in subsequent research, the IRP, with well-established psychometric qualities and demonstrated validity in research in educational contexts, has been used in the majority of school-based acceptability research. The TEI has had more use in investigations of treatment acceptability in clinical settings.

The majority of acceptability research has involved the assessment of pretreatment acceptability in analogue experimental studies, with some exceptions (Walle, Hobbs, & Caldwell, 1984). These investigations have identified numerous variables that have an impact on the acceptability of interventions. Extensive descriptions of these outcomes are available (e.g., Elliott, 1986, 1988; Reimers, Wacker, & Koeppel, 1987), however, the major findings are summarized below.

The first set of variables to be described are those related to the way interventions are presented. Acceptability is affected by the type of jargon used to describe the intervention, what it is called, and what characteristics of intervention are highlighted (Witt, Moe, Gutkin, & Andrews, 1984; Woolfolk & Woolfolk, 1979;
Woolfolk, Woolfolk, & Wilson, 1977). Teachers preferred interventions presented in humanistic or pragmatic terms as opposed to behavioral terms, or when behavioral jargon was employed. Acceptability of interventions is affected by the rationale which accompanies the description of treatment (Cavell, Frentz, & Kelley, 1986a, 1986b), and the level of involvement of the consultant in implementation of the intervention (Algozzine, Ysseldyke, Christenson, & Thurlow, 1983; Martens, Peterson, Witt, & Cirone, 1986). Although teachers have indicated that they prefer interventions which can occur in the classroom and with limited time commitment in consultation, it is not clear from this research whether teachers prefer treatments they implement themselves or those which are implemented by others.

The second set of findings is related to child and treatment characteristics, and teacher background variables. Intervention acceptability increases with more severe child problems (Kazdin, 1980a; Elliott, Witt, Galvin, & Peterson, 1985; Frentz & Kelley). Treatments which are more positive (e.g., social praise, reward) are typically rated as more acceptable than are reductive interventions (e.g., timeout, response cost) (Elliott, Witt, Galvin & Peterson, 1984; Kazdin, 1980a, 1980b, 1981; Kazdin, French, & Sherick, 1981; Martens, Peterson, Witt, & Cirone, 1986; McKee, 1984; Witt, Elliott, & Martens, 1984; Witt & Robbins, 1985). In general, teachers rate more positively those interventions
which require less time to prepare and to implement, however, with more severe problems, effectiveness of treatment appears to be more important to acceptability ratings than does the time required (Elliott, Witt, Galvin, & Peterson, 1984; Kazdin, 1982; Witt, Elliott, & Martens, 1984; Witt & Martens, 1983, 1988; Witt, Martens, & Elliott, 1984). Effectiveness information also has been found to affect intervention positively (Clark & Elliott, in press; Von Brock, 1985; Von Brock & Elliott, 1987), although, a naturalistic study involving posttreatment acceptability/satisfaction found no relationship between effectiveness of classroom contingency options and acceptability. Teacher background characteristics have an effect on ratings of intervention acceptability (McKee, 1984; Witt, Moe, Gutkin, & Andrews, 1984; Witt & Robbins, 1985). Teacher technical knowledge of interventions is positively related to intervention acceptability (McKee, 1984), although regular classroom teachers and special educations teachers do not differ in acceptability ratings (Clark & Elliott, in press; Epstein, Matson, Repp, & Helsel, 1986). Older teachers and those who have taught longer also rate treatments as less acceptable than do younger less experienced teachers.

In summary, intervention acceptability is a complex, and multiply influenced construct. Many variables pertinent to the prereferral intervention context have been
demonstrated to affect intervention acceptability, and, certainly, the proposed interrelationship of acceptability, treatment knowledge, use, integrity and effectiveness would have significant effects on the outcomes of prereferral interventions. Because the majority of intervention acceptability research is analogue it is difficult to draw conclusions about the importance of treatment acceptability to the prereferral intervention process. Naturalistic investigations are needed which relate pretreatment acceptability with actual levels of treatment implementation and other indices of treatment outcome. Elliott (1986), among others, (Tingstrom, Little, Edwards, & Martens, 1990) has recognized the need to extend the domain of intervention acceptability research to include descriptive and experimental investigations of actual interventions developed and implemented in naturalistic settings. Of importance also, is the need to extend the acceptability research venue to include investigations which relate pretreatment acceptability to intervention use, integrity and effectiveness.

**Integrity of intervention implementation**

Integrity of implementation refers to the degree to which a program, intervention plan, or set of discrete treatment procedures is implemented as planned (Sechrest, West, Phillips, Redner, & Yeaton, 1979; Yeaton & Sechrest, 1981). Sechrest et al. described the importance of
treatment integrity first in the context of field-based program evaluation. They suggested that threats to internal validity (related to procedural discrepancies between plan and implemented program) may have more complex effects in evaluation research than in, the more typical, well-controlled laboratory studies. They described features of the evaluation context which are directly applicable to the study of prereferral intervention:

First, treatments as they are delivered in real settings are rarely standardized as they are in the best laboratory experiments. Real treatments are often complex, are sometimes delivered by poorly trained or unmotivated people, and can be totally disrupted by events in the real world. Thus, in many cases, the failure of the actual treatment to produce any significant effect may tell us nothing about the potential effect had the treatment been correctly implemented. (Sechrest, West, Phillips, Redner, & Yeaton, 1979, pp. 15-16).

As stated earlier in this review, the major goals of prereferral intervention include the identification of successful interventions or intervention strategies which will allow students to remain in regular classrooms and, secondly, to provide data-based information on intervention implementation results which will increase the validity and
effectiveness of the assessment and decision-making processes. In light of these goals, the study of integrity of treatment implementation is crucial. In order to make decisions that will benefit children, it may be more important to know what intervention was implemented, rather than whether something was tried. In some cases, poorly implemented prereferral intervention strategies will fail to produce significant changes in child behavior and inevitably lead participants to draw erroneous conclusions about their effects, and thus the need for formal referral to assessment. As conceptualized by Yeaton et al. (1979) treatment integrity has important implications for evaluation research; in the context of prereferral intervention, lack of integrity may have potential direct impact to the detriment of the recipient of a potentially successful but inadequately implemented intervention. Important too, at the level of establishing a base of empirical research on the effects of prereferral interventions in producing predictable effects, is the need to quantify the moderating effects of variability in intervention integrity.

Although several authors have published "calls to arms", urging researchers to include measures of intervention integrity in treatment outcome studies (Billingsley, White, & Munson, 1980; Peterson, Homer, & Wonderlich, 1982; Salend, 1984), integrity has received
relatively little attention in the treatment research literature (Gresham, 1989; Kratochwill, Sheridan, & Van Sommeren, 1989; Kratochwill & Van Sommeren, 1985). Billingsley, White and Munson (1980) reviewed all reports published in two behavioral treatment-oriented journals (Behavior Modification and Journal of Applied Behavior Analysis) over a two year period (1978, 1979). Results of this review indicated that 82% of the studies had reported reliability data on data collection procedures, and only 5.6% included any assessment of the degree to which procedure were applied as planned. Further, those studies only provided information concerning very limited aspects of the total procedure. In the same study (Billingsley, White, & Munson, 1980) the authors reported the results of an empirical investigation of "procedural reliability" in a classroom-based intervention program. Measured procedural reliability for one teacher varied between 51% and 71% across two intervention plans, the second teacher attained 47% reliability. The implementing teachers were asked to identify those days on which variations in procedure had occurred, and they were accurate 10%, 20% and 50% of the time. The authors concluded that the teachers general inability to recognize changes in their instructional plans, indicated it was likely that changes in instructional plans were the result of teacher error rather than responses to the perceived needs of the situation.
A study by Wodarski, Feldman and Pedi (1974) of the treatment of antisocial behavior provides early accounts of the potential impact of low treatment integrity. The authors found very few significant differences between treatment and control group subjects on dependent measures of antisocial behavior. The authors concluded that lack of treatment effects may have resulted from poorly designed measurement procedures and had gathered data which indicated the intended group therapies did not occur as planned. Wodarski and Pedi made the recommendation to future researchers to attend to measurement of the extent to which intended treatment are implemented.

Peterson, Homer, and Wonderlich (1982) reviewed all studies published in volume 1 through 10 of the Journal of Applied Behavior Analysis to investigate the extent to which authors reported measurement of "reliability of the independent variable", the level of integrity with which reported treatments were implemented. The majority of articles published in that journal over the twelve-year period surveyed did not report independent variable assessment, even when the risk of inaccuracy in implementation was high. The majority of articles in the sample also failed to provide operational definitions of independent variables, and an average of only 16% of the studies presented both operational definitions of independent variables and measurement of treatment
integrity.

In a review of treatment integrity in the special education research, Salend (1984) was critical of the lack of attention researchers paid to efforts to monitor the implementation and maintenance of the independent variables in treatment outcome studies. More recently, Shapiro (1987b) and Gresham (1989) have leveled the same criticism at researchers in school psychology and, in particular, those conducting studies on the outcomes of school-based consultation where "treatment" implementation is undertaken by teachers and other school-based personnel. Gresham and Kendall (1986) reported in their review of the consultation literature reported little attention had been directed toward the issue of treatment integrity in the consultation research.

Happe (1982) reported for consultation between school psychologists and classroom teachers 80% of consultees give verbal commitment to a consultation plan, 60% implement the plan for one day, and only 40% carry the plan out to conclusion. In the Pugach (1982) study of IEP planning and implementation, teachers seldom utilized the IEP in planning or monitoring instruction for handicapped students. Only 12% of the teachers sampled had copies of the IEP in their classroom. Similarly, D'Amato and Dean (1987) that program recommendations from psychological reports were unlikely to be well represented at subsequent levels of implementation.
On average they found only 16% correspondence between psychological report recommendations and the content of daily lesson plans. Noble and Dickenson (1988) found implementation/integrity was positively related to the level of specificity of the recommendation and the relatedness to current classroom processes.

An agreed-upon methodology for the quantification of intervention integrity in consultation or prereferral intervention has not been developed at this point, although Gresham (1989), as well as others (Tharp & Gallimore, 1979; Thomas, Bastien, Stuebe, Bronson, & Yaffe, 1987) has suggested several observational procedures for use with multicomponent treatment plans. Gresham suggested development of operational definitions of treatment components based on a task analysis of the treatment. Observation then focuses on the occurrence or nonoccurrence of each treatment component. In addition, Gresham suggests the use of self-report measures of integrity, and global ratings of implementation to supplement direct observation of intervention components. A recent monograph on program evaluation (King, Morris, & Fitz-Gibbon, 1987) provided detailed suggestions on the conduct of assessments of program implementation. Although this text is focused on the assessment of program implementation the methodological approaches apply equally well to the study of intervention integrity. The initial stage of assessment in program
evaluation is the decision of what to measure, a decision based on a thorough description of the critical features of the program, stipulation of any detrimental features which are expected to be absent and decision about the kinds of supporting data needed to establish level of implementation. King, Morris and Fitz-Gibbon suggested the use of observations, questionnaires, interviews and the examination of program records and permanent products of program implementation as appropriate strategies for establishing the level of implementation of the program.

The importance of the study of treatment integrity has been established at both a theoretical and practical level (e.g., White, Dittrich, & Lang, 1980; Yeaton & Sechrest, 1981). It is important to establish the validity of treatment outcomes in the context of known levels of integrity of implementation. Research is needed which establishes the differential outcomes related to variations in level and type of intervention integrity. Attention needs to be directed in these investigations to a wide variety of outcomes that might be differentially affected by variations in intervention implementation, including effects on teacher, parent, child perceptions of satisfaction with treatment, and relevant direct and indirect measures of behavior change. In applied settings where important decisions about future placements and instructional opportunities are made on the basis of treatment outcomes,
it is extremely important to establish the level of
treatment implementation and to establish the relationship
between level of intervention implementation and relevant
social and academic outcomes.

Problem Summary

In the review of literature related to prereferral
intervention three problem areas were identified. There
exists a lack of systematic knowledge of the processes which
occur in prereferral intervention planning. Research is
also lacking regarding the immediate outcomes of prereferral
intervention in terms of teacher responses to specific
aspects of the process and interventions developed, and the
clearly important outcomes with regard to child behavior
change. Finally, our knowledge of the prereferral
intervention process is incomplete in terms of understanding
the interrelationships among component processes and
outcomes.

Descriptive studies designed to examine the
implementation of prereferral interventions and important
elements of the planning process are necessary to the
solution of this problem. By identifying relations between
teacher participation in the planning process, which the
literature in other areas shows to be related to
satisfaction, and the degree of implementation of
intervention plans, the present study will serve to extend
current knowledge about how the processes of prereferral
intervention are related to outcomes.

Despite increasing research in this area, there remains a significant dearth of information about:
1. the nature of teacher and team interaction processes undertaken in planning prereferral interventions;
2. the immediate outcomes of prereferral intervention planning in terms of teacher satisfaction with the process and acceptability of the intervention plans developed;
3. the nature and level of integrity with which prereferral interventions are implemented;
4. the effects of prereferral intervention in terms of child behavior change during prereferral intervention;
5. the interrelationships of process and immediate outcome variables, intervention integrity, and child behavior change in the intervention planning process

Purpose of the Study

Reflecting the problems identified, the purpose of the present study was to conduct an intensive analysis of multiple prereferral intervention cases, incorporating methodological advances in process research, using both process and outcome measures and both objective and subjective data. The inclusion of multiple qualitative and quantitative measures allowed for a more complete description of a rather complex phenomenon. The first goal of the study was to describe the process of prereferral intervention team meetings. Several process measures were
used to assess verbal behavior, coded by objective judges, for both committee members and teachers. Outcomes were measured at three stages in the prereferral intervention process. At the initial stage, teachers completed measures related to the process and immediate outcomes of the referral intervention planning meeting. These included teacher satisfaction with the process, ratings of outcomes of the planning meeting, and teacher ratings of treatment acceptability. The second stage of outcome measurement included multiple measures of classroom implementation of prereferral interventions. The final stage involved measurement of child behavior change.

The second aim was to explore the interrelationships of the processes and outcome measures through statistical analysis of relationships among and between measures of prereferral intervention process and outcome.

**Hypotheses**

In light of the findings in the literature related to issues of intervention planning and classroom implementation the study was guided by the following hypotheses:

1. Consistent with findings in dyadic consultation, IEP and multidisciplinary assessment teams, teachers will not be equal participants in the prereferral intervention planning process. It was predicted that committee members would have significantly greater proportion of the interaction time than the referring teacher.
2. Given the mandated objective of the prereferral intervention team meeting to focus on child learning and behavior difficulties and development of appropriate intervention procedures, it was predicted that more teacher and committee interactions would be focused on specification of student behavior, classroom setting and intervention plan than would be in other less relevant areas such as student personality characteristics and out of school environment.

3. It was predicted that teacher consumer satisfaction ratings would be positively related to the degree of active teacher participation in the prereferral intervention planning process.

4. It was predicted that teachers would view interventions as more acceptable when they were more actively involved in the planning process. A moderate positive relationship was expected between indices of active participation and ratings of intervention acceptability.

5. It was predicted that overall level of treatment integrity in prereferral intervention will be low and that rated characteristics of the prereferral intervention planning meeting, and degree of severity of child behavior problem would be significant predictors of the degree to which the classroom intervention is implemented with high integrity.

6. It was hypothesized that teacher rated satisfaction with the intervention planning process and rated
acceptability of the intervention(s) would be significant predictors of the degree to which the classroom intervention is implemented with high integrity.

7. It was hypothesized that a significant positive relation would be found between change in child behavior and measured intervention integrity.

8. It was predicted that measures of teacher and committee interaction, teacher satisfaction, intervention acceptability, intervention integrity, and rated characteristics of the team process will provide accurate predictions of children subsequently classified as referred and not referred based on school-based team decisions of the success of prereferral intervention.
Method

Design

This exploratory study focuses on the processes which occur in prereferral intervention meetings, and the relationships among processes, outcomes of intervention planning, and intervention implementation in classroom settings. Prereferral intervention cases were analyzed with respect to multiple lines of evidence (Peterson, 1987) quantified through multiple measures of processes and outcome variables. The primary purpose of the study was to obtain detailed information about specific components of prereferral intervention and to describe the extent to which these components were related. For this purpose an ex-post facto design was used. Quantitative data on meeting processes were collected in naturalistic settings and several process variables were derived through subsequent independent analyses. Outcome variables, the products of prereferral intervention planning, were assessed through repeated classroom observations, teacher interviews, teacher self-report and other-completed rating scales.

Subjects

The sample consisted of 52 elementary and middle school classroom teachers who had referred a child to the building-based prereferral intervention team in one of 13 public elementary and middle schools across three semi-rural and suburban school districts in Louisiana. Schools included 10
elementary schools (grades K-8), 2 primary schools (grades K-3) and 1 middle school (grades 6-9). All but three teachers who brought forward prereferral intervention cases to their respective team agreed to participate. Those three cases were not included in the study. Demographic characteristics of the participating teachers are presented in Table 1. Teachers ranged in age from 23 to 63 years of age and had been teaching an average of 10 years. The sample included only one male subject. Most teachers reported having four-year college teacher training, although 8 had graduate degrees and 3 reported having no college training. Teachers at primary and intermediate grade levels were approximately evenly represented. All of the teachers in the sample had previous experience with the intervention planning process and 66% indicated they had referred at least one child over the academic year.

**Measures**

The study made use of several measurement instruments as sources of data for each of the component processes and outcomes investigated.

**Meeting Process**

Three instruments were used to quantify the verbal processes which occurred during prereferral intervention team meetings. The *Multivariate Ecological Observation System - Prereferral Intervention version* (MEOS-PI) was used to quantify frequency of teacher and committee member
Table 1

Demographic Characteristics of Teachers in Study Sample

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<tr>
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<th>Sex</th>
<th>Age</th>
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<tr>
<td></td>
<td>Male 1 (2%)</td>
<td>Mean 35.4</td>
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<td></td>
<td>Female 51 (98%)</td>
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<td>Number of requests for</td>
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<td>child consultations</td>
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<td>Years of teaching</td>
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<td>Mean 9.8</td>
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<td></td>
<td>Range 0 - 29</td>
<td></td>
</tr>
<tr>
<td>Number of requests to</td>
<td></td>
<td></td>
</tr>
<tr>
<td>team this year for</td>
<td>Mean 2.04</td>
<td></td>
</tr>
<tr>
<td>prereferral</td>
<td>S.D. 2.04</td>
<td></td>
</tr>
<tr>
<td>intervention</td>
<td>Range 0 - 8</td>
<td></td>
</tr>
<tr>
<td>Number of children in</td>
<td></td>
<td></td>
</tr>
<tr>
<td>class this year who</td>
<td>Mean 4.4</td>
<td></td>
</tr>
<tr>
<td>require substantial</td>
<td>S.D. 5.3</td>
<td></td>
</tr>
<tr>
<td>program modification</td>
<td>Range 0 - 23</td>
<td></td>
</tr>
<tr>
<td>Grade level of students</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Primary (K-3) 30 (58%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Intermediate (4-7) 22 (42%)</td>
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</tr>
</tbody>
</table>

Note. n = 52

The study sample included three first-year teachers.
interactions by interaction type, and total verbal interaction time for committee members and teacher. The Consultation Analysis Record (CAR) (Bergan & Tombari, 1975) was used to obtain a measure of frequency and distribution of teacher and committee verbal interaction in terms of interaction content, process, and control. The Process and Outcome Rating Form (PAORF) was used to provide ratings of the extent to which specific process and outcome goals of prereferral intervention were met in each of the prereferral intervention team meetings.

MEOS-PI. The MEOS-PI coding system was developed for the study to quantify the level and distribution of teacher and committee member verbal contributions during intervention meetings. This system is an adaption of the Parent Response Observation Form (PROF), an instrument developed to quantify parent verbal participation in Individual Educational Plan meetings (Vaughn, Bos, Harrell, & Lasky, 1988). Observational coding was performed on a micro-computer using the Multivariate Ecological Observation System (MEOS) software (Martens, Meller, & Springer, 1987). The observation system allowed for continuous recording of the number of seconds in which teacher or committee member spoke during the meeting, and frequency counts of three categories of interactions engaged in by each speaker. Speaking time was coded in one of three categories:

1. Teacher talking, teacher speaking,
(2) Committee talking, any meeting participant other than the referring teacher speaking,

(3) Talkover, more than one person speaking at the same time.

In addition, total meeting time was recorded and frequency counts of verbal interactions were coded by speaker and interaction type. The speaker categories included:

(1) Teacher, the regular classroom teacher who has initiated the referral and will implement the planned interventions, and

(2) Committee member, any meeting participant other than the referring teacher.

By further subdividing each of these categories into interaction type, frequency of interaction for each speaker was coded into one of three categories:

(1) Question, any question asked by the speaker during the meeting,

(2) Response, any comment in response to a comment or a question from another speaker, and

(3) Comment, any comment initiated by the speaker during the meeting not in response to a question or a comment directed to the speaker.

Frequency counts indicated the number of interactions of each type engaged in for each of the two categories of speaker. Thus, the MEOS-PI yielded 14 dependent measures of
teacher and committee verbal interaction, including total meeting time and time in which more than one person was speaking. The teacher measures included frequency of questions, answers, and comments, total teacher verbal interaction time, teacher proportion of total meeting time, and proportion of total interactions which were teacher questions or comments. The same measures were available for the committee interactions.

**Consultation Analysis Record.** The verbal interaction coding system developed by Bergan and Tombari (1975) was used to code frequencies of teacher and committee verbal interaction from typed transcripts of prereferral intervention meetings. Bergan's (1977) system for classifying verbal messages during behavioral consultation was designed both as a research and training tool, and is intended for use with the four-stage problem-solving model of consultation which includes problem identification, problem analysis, plan implementation and plan evaluation. The consultation analysis record allows the classification of verbal interchange in terms of dimensions: (a) message source, (b) message content, (c) message process, and (d) message control.

The source dimension indicated the person speaking. Content referred to the topic of the interaction. Process indicated the kind of verbal action conveyed in a message, and control referred to the potential influence of a
verbalization by one participant on what will be said or done by another participant. The four message classification dimensions and the subcategories associated with each are shown in Table 2. Complete descriptions of the dimensions and subcategories of the CAR, examples of the coding sheet used in the study and sample coded interactions are included in Appendix A. The CAR system involved the coding of discrete units of verbal behavior of committee members and referring teacher in the appropriate subcategory of each dimension yielding a potential 196 message classification categories for each unit of observation. The unit of observation selected was the independent clause. The independent clause included only those utterances that can convey a complete subject-action-object relation even when standing alone.

Table 2

Consultation Analysis Record Message Classification Dimensions and Subcategories

<table>
<thead>
<tr>
<th>Message Source</th>
<th>Message Content</th>
<th>Message Process</th>
<th>Message Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher</td>
<td>Background</td>
<td>Specification</td>
<td>Elicitor</td>
</tr>
<tr>
<td></td>
<td>Environment</td>
<td>Positive</td>
<td></td>
</tr>
<tr>
<td>Committee</td>
<td>Behavior Setting</td>
<td>Evaluation</td>
<td>Emitter</td>
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<td></td>
<td>Behavior</td>
<td>Negative</td>
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</tr>
<tr>
<td></td>
<td>Individual</td>
<td>Evaluation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Characteristics</td>
<td>Inference</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Observation</td>
<td>Summarization</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Plan</td>
<td>Positive</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>Validation</td>
<td></td>
</tr>
</tbody>
</table>

Note. Adapted from Bergan & Kratochwill, 1990
The CAR has been used in numerous consultation studies with adequate interrater reliability (interrater reliability agreements above .90 in assigning statements to categories) and has demonstrated excellent predictive validity with respect to quality of problem definition, plan implementation, and expectations for problem solution (Bergan & Tombari, 1976; Curtis & Watson, 1980; Martens, Lewandowski, & Houk, 1989; Tombari & Bergan, 1978). The CAR has been used to demonstrate the relation between actual verbal behaviors on the part of school-based consultants and several important outcomes of consultation. For example, Martens, Lewandowski, & Houk (1989) examined relationships between specific categories of consultant and consultee verbal behaviors and consultee perceptions of the value of the consultative session. Early work by Bergan (Bergan & Tombari, 1976) demonstrated that over 60% of variation in successful problem definition in consultation could be accounted for by specific categories of consultant behaviors.

Frequency of interaction in each of the coding categories were calculated for each meeting transcript. Percent of total meeting clauses coded in each category, teacher and committee distribution of interactions across subcategories and total number of interactions were calculated for each case.
Process and Outcome Rating Form. The Process and Outcome Rating Form (PAORF) is a 17-item rating scale developed for this study to reflect the degree of active teacher participation in problem identification and intervention planning, degree of collaboration observed in the meeting process, additional items related to the degree to which elements of problem identification and plan development are present. A final set of items sought ratings of the specificity, ease of use, relevance to stated problems and predicted effectiveness of the intervention(s) developed during the meeting. A copy of the PAORF is included in Appendix B.

The PAORF consists of twelve rating items, each scored on a five-point Likert-type scale and five items which are scored dichotomously to indicate if a particular element of prereferral intervention planning were observed to be present in the rated meeting. The inclusion of an item reflected the established importance of each area in the classroom problem-solving and intervention planning literature. Several authors have emphasized the importance to intervention implementation and outcome of teacher active involvement in identifying problems (Bergan & Tombari, 1976; Gutkin, 1986; Thurlow & Ysseldyke, 1982), and in planning interventions (Graden, Casey, & Christenson, 1985; Margolis & McGettigan, 1988; Yoshida, Fenton, Maxwell, & Kaufman, 1978a, 1978b). Equally prominent in the literature is the

The importance and relevance of rating these items is well supported. The behavioral consultation and classroom intervention literature is unanimous in stressing the importance to success of treatment outcome of the accurate identification and specification of the referral problem (e.g., Bergan & Tombari, 1976). As suggested by Lentz and Shapiro (1985), specific descriptions of student behavior and response to environmental conditions provides information useful to intervention planning. According to Rosenfield (1987), only after identification and specification of the problem can the intervention be developed. Similarly, treatment success is thought to be affected by the degree to which the intervention plan is specified and implementation procedures clarified (Zins, Curtis, Graden & Ponti, 1987). Recent survey results reported by Martens and his colleagues found a positive relation between ease of use and degree of implementation of classroom interventions for children’s behavior; teachers reported they were more likely to use interventions that were easier to use (Martens, Peterson, Witt, & Cirone, 1986). Finally, Yeaton & Sechrest (1981) caution that the strength and effectiveness of treatment, as well as the
integrity of treatment implementation, are critical dimensions in the choice and maintenance of successful treatment. Strength refers to the a priori likelihood that a treatment contains large amounts of the ingredients leading to change. Effectiveness of a particular treatment is related to the appropriateness or conceptual relevance of the treatment to a specific problem. Thus, a priori judgements of treatment effectiveness and success must be based on ratings of treatment strength and relevance to the stated problem, with faithful implementation assumed.

Ratings on each PAORF scale item as well as aggregated scores for teacher involvement, meeting efficiency and problem focus, and total meeting rating across process and outcome dimensions were derived for each case and were used in subsequent analyses.

Meeting Outcomes

Following the prereferral intervention planning meeting several dimensions of outcome or products of intervention planning were measured. The first area is that of teacher response to the process and products of the prereferral intervention planning process. In order to quantify these responses teachers were administered the Teacher Consumer Satisfaction Questionnaire (TCSQ) and the Intervention Rating Profile (IRP). Finally, several measures were administered to quantify level of intervention integrity, or degree of implementation of the planned prereferral
intervention, and perceived change in targeted or referral problem following intervention implementation.

Teacher Consumer Satisfaction Questionnaire. Teachers completed the 22-item TCSQ consumer satisfaction measure following their participation in the prereferral intervention planning meeting. The TCSQ was developed for this study to assess teacher attitudes and perceptions of important meeting process and outcome variables. The questionnaire was developed in part from several existing measures of this type (e.g., Brown, & Schulte, 1987; McMahon, Forehand, & Griest, D.L., 1981; Gallessich, 1982; Harrington & Gibson, 1986; Parsons & Meyers, 1984; Yoshida, Fenton, Maxwell & Kaufman, 1978a, 1978b). Each of the 22 items were rated on a five-point Likert-type scale ranging from "strongly agree" to "strongly disagree". Teachers are asked to indicate the extent to which each statement was an accurate description of their reaction to specific components of the meeting process and outcomes. The items for the scale were selected to reflect elements thought to be important to teacher satisfaction with the meeting process (e.g., time and opportunity to contribute, contributions seen as valuable, questions and concerns answered, others attempt to see things from my perspective), and items thought to reflect the teachers satisfaction with meeting outcomes (e.g., helpful in planning interventions, helped me become better at solving problems,
responsibilities clear, goals established are able to be accomplished in the given time). A copy of the TCSQ is included in Appendix B.

The measurement of consumer satisfaction is in keeping with the established importance of social validation of the goals, procedures, and outcomes of interventions (Wolf, 1978). In his review of research in consumer satisfaction with mental health services, Lebow (1982) suggests consumer satisfaction measures provide a "unique view of the treatment process and an important conception of the quality of service" (p.254). The importance of measuring participant response to both process and outcome aspects is clear from the survey of responses to preassessment procedures reported by Harrington and Gibson (1986). Respondents reported general satisfaction with the preassessment processes but were mixed in their reported satisfaction with the outcomes of the procedure, the interventions, and rated success of recommendations developed. In a review of research on consumer satisfaction with behavioral treatment of children, McMahon and Forehand (1983) employed a broad definition of consumer satisfaction to include ratings of both process and outcome. They recommended the inclusion of such measures to facilitate efforts to investigate the relationship between satisfaction and other outcome measures, particularly to generalization and maintenance of treatment outcomes. Organizational
research, as well, supports the view that participation in a
decision-making process is positively related to
satisfaction and commitment to implementation of group
decisions (Yoshida, Fenton, Maxwell, & Kaufman, 1978a).
These issues of treatment generalization and maintenance,
which are important in direct treatment, become crucial to
indirect service delivery where "treatment outcomes" refer
to the crucial intermediate step of implementation of
interventions with the target student(s) by someone other
than the consultant (team member).

In addition to the process and outcome items described
above, several items were included in the TCSQ to describe
teacher perception of the appropriateness of the child
remaining in the regular classroom (regular classroom
interventions will not be sufficient, needs too severe for
regular classroom, will qualify for placement in special
education). These items were included to determine the
importance of teacher assumptions which might underlie
ratings of satisfaction with meeting processes and outcomes.
It is possible, for example, that teacher satisfaction with
the prereferral process is attenuated when the teacher has
decided child placement in the regular classroom is
inappropriate for a particular child. In the case where the
child falls outside the teacher's "tolerance level" (Gerber,
1988), even well managed process and "reasonable"
intervention expectations may be at odds with the teacher's
perceived need to reduce variance in student classroom behavior.

Teacher ratings on the TCSQ were scored and four measures derived to reflect their (a) overall satisfaction with the prereferral intervention planning process and its outcomes [15 items], (b) satisfaction with the interventions developed in the prereferral intervention planning meeting [8 items], (c) satisfaction with the planning process they experienced [7 items], and (d) a [2 item] rating of the severity of the child's problems.

**Intervention Rating Profile.** The Intervention Rating Profile (IRP) (Martens & Witt, 1982) was administered to teachers to assess the teacher perceived acceptability of the specific interventions in the prereferral intervention meeting. Acceptability refers to whether treatments themselves are perceived as "appropriate, fair, and reasonable for the client" (Kazdin, 1981, p. 493). The IRP is a well established measure of educational intervention acceptability. It consists of fifteen Likert-type items which together represent teacher's pre-implementation judgements about the overall acceptability of the intervention procedures. Witt and his colleagues have used the IRP in a number of investigations of pretreatment acceptability (Witt & Martens, 1983; Witt, Elliott, & Martens, 1984; Martens, Witt, Elliott, & Darveaux, 1985). Findings from these studies indicate the IRP items load on
five factors of general acceptability, risk to the child, time required to implement, negative effect on other children, and amount of skill required to implement the intervention (Witt & Martens, 1983). Reported reliability of the IRP with a sample of experienced regular and special class teachers ranged from .82 to .95 on the five factors, with a composite alpha of .98 reported for the total scale (Witt & Elliott, 1985). Several investigations have demonstrated the validity of the IRP as a measure of differential acceptability of a variety of intervention variables including, treatment type, time requirements, and reported effectiveness (Elliott, 1988). Elliott (1988) reviewed over twenty empirical and supporting studies of treatment acceptability and concluded that the study of treatment acceptability must be extended to naturalistic consultative contexts particularly in efforts to establish the link between pretreatment acceptability and posttreatment effectiveness. Total scores from teacher ratings on the IRP, as well as the five subscale scores were used to quantify teacher rated prerereferral intervention acceptability.

Prereferral Intervention Protocol. Following each prerereferral intervention planning meeting a photocopy was made of any written documentation of the intervention plan prepared by team during the meeting. Based on this documentation and the audio-taped record of the intervention
planning meeting two experimenters blind to the purpose of
the study prepared an operational description of the
intervention plan(s) developed during the prereferral
intervention planning meeting. The intervention protocol
thus developed made use of participant phrases transcribed
from the meeting audio tape recording and photocopied
meeting materials. In the event that more than one version
of an intervention plan was discussed during the meeting,
the protocol represented the final version presented during
the meeting. Following preparation of the draft meeting
protocol the researcher and the second experimenter reviewed
the protocol and established consensus on intervention
requirements prior to preparation of final protocols. The
procedure used to articulate interventions developed during
the meeting draws conceptually from the methodology
established in evaluation research (e.g., Patton, 1978,
1979; Wang, Nojan, & Strom, 1984) as well as procedures from
the literature in behavioral assessment (e.g., Shapiro,
1987a) and direct observation (e.g., Foster & Cone, 1980).
The major objective of this set of procedures was to develop
an explicit and detailed descriptive record of the
intervention procedures which would define how the
intervention would be implemented as it was intended. The
Prereferral Intervention Protocol included details regarding
treatment, instruments used to measure effects, data
collection procedures, curriculum materials, instructional
and feedback procedures schedules used for administering intervention components, and any other requirements germane to the intervention. The protocol was then used in two subsequent procedures including ratings of observed intervention implementation (treatment integrity) and ratings of treatment strength.

**Observed Intervention Implementation Rating Scale.** The Observed Intervention Implementation Rating Scale (OIIRS) (see Appendix B) was developed for this study to quantify observers perceptions of the degree of integrity observed in implementation of prereferral intervention the regular classroom. The rating procedure used in the OIIRS is similar in approach to that employed in classroom environmental assessment using The Instructional Environment Scale (Ysseldyke & Christenson, 1987), direct observation of child problem behavior using the Child Behavior Checklist - Direct Observation Form (Achenbach, 1985), and that described by Maher and Kratochwill (1980) as implementation or process evaluation (Patton, 1978). Observers were instructed to rate prereferral intervention treatment integrity three rating items over two observation sessions. The first item required the observer to rate the degree to which the observed intervention procedures in place at the time of observation were like those described in the Prereferral Intervention Protocol developed from the prereferral intervention planning meeting.
Observers rated integrity of implementation in one of four categories:

(1) no evidence of implementation, none of the planned elements of intervention are present,

(2) partial or adapted implementation, some important elements are missing,

(3) very minor modification, small changes in procedure or materials but no important elements are missing, or

(4) evidence of complete adoption, all elements of planned intervention are present.

Observers also made an anecdotal record of the observed intervention in addition to completing the rating scale. The second and third integrity rating items were completed following a second classroom observation. The second item asked observers to rate the integrity of implementation of the intervention as described in the Protocol using the same scale as in the first rating. The final item was a rating of the degree of similarity between the intervention implemented during the first and second observations. Degree of similarity was rated on a five-point Likert-type scale. A rating of "1" indicates the two observed interventions were not at all similar, "3" somewhat similar, and "5" completely similar. Observer ratings were tabulated for each observation and used in subsequent data analyses.
Teacher Intervention Follow-Up Form. At the completion of the prereferral intervention period teachers were asked to complete a self-report rating of the degree to which they implemented the interventions as planned at the initial prereferral intervention meeting. Intervention implementation was rated on the Teacher Intervention Follow-up Form (TIFF) (see Appendix B) by having teachers indicate on a five-point scale the degree to which intervention was implemented as planned. Rating categories included both degree to which the procedures were similar to those planned and the frequency with which they were implemented. A rating of 1 indicated that the intervention was implemented completely as planned and maintained throughout the prereferral intervention period; a rating of 2 indicated no changes in intervention procedure but only part-time implementation; 3 indicated major changes in procedure but maintained throughout the prereferral intervention period; 4 major changes, implemented only part-time; and 5, intervention not implemented. Intermediate ratings correspond to types of partial implementation. In addition to the rating of integrity of intervention implementation, teachers were asked to rate the degree of change in child's performance since the initial meeting with the prereferral intervention planning team. The latter scale is one of considerable significance since it represents an "evaluative conclusion" (of exceptionality) for children who continue on
to evaluation (Gerber & Semmel, 1984). Children who are not perceived to have changed as a result of classroom implemented prereferral intervention become eligible for referral for formal evaluation.

**Teacher Intervention Interview.** Following the prereferral intervention period all teachers who participated in the study were interviewed by the researcher or an assistant using a structured interview format, the Teacher Intervention Interview (see Appendix B). Teacher interviews were tape-recorded for secondary data collection and analysis at a later stage in the study. Interview content focused on seven issues:

(1) teacher description of the intervention implemented in the classroom for the referred child,

(2) teacher estimate of the frequency with which the described intervention was implemented,

(3) teacher description of difficulties in implementing the planned interventions or problems with the interventions themselves,

(4) teacher description of the purpose for undertaking prereferral intervention,

(5) the degree to which the child changed as a result of prereferral intervention,

(6) teacher estimate of the strength of the planned intervention, was it powerful enough to remediate this child’s difficulties, and
(7) changes needed in the intervention to make it more effective and changes in the prereferral intervention process to make interventions more effective.

Tape-recordings of teacher verbal responses to interview questions were used to provide convergent data for ratings of treatment integrity, treatment strength and child behavior change. These ratings were accomplished using the Teacher Follow-Up Interview Rating Scale described below. In addition these interview protocols provide a rich source of data for subsequent investigations.

Teacher Follow-Up Interview Rating Scale. The TFIRS instrument was developed for the study to quantify teacher interview reports with respect to prereferral intervention treatment integrity, strength of intervention, and degree of teacher reported child behavior change. As described above, the interview sought convergent information regarding intervention integrity, treatment strength, and child behavior change. A copy of the TFIRS is presented in Appendix B. The first rating item on the TFIRS was identical to the integrity rating scale use in the two OIIRS observer ratings. This asked raters to compare the intervention described by the teacher in the interview session with the intervention protocol and related documents. Raters were asked to indicate the level of treatment integrity using the protocol and meeting documents as criteria for intervention characteristics. The
second rating question required a rating of the frequency with which intervention was implemented from "1", not implemented at all, to "3", implemented throughout the prereferral intervention period. Intermediate ratings corresponded to part-time implementation. The third rating item required the rater to estimate the strength of the intervention described by the teacher, ignoring degree of difference from the protocol and assuming complete implementation. The final item is a rating of child behavior change and corresponds to the 5-point scale on the Teacher Intervention Follow-Up Form, which teachers completed immediately following the prereferral intervention period. Ratings were recorded on a five-point scale ranging from "much worse" to "much better. Intermediate ratings indicated the child was "about the same", "a little worse" or "a little better".

Procedures

Sampling

The prereferral intervention cases studied were selected from the school-building level team referrals in thirteen public elementary and middle schools across three Louisiana school districts. Schools included 10 elementary schools (grades k-8) 2 primary schools (k-3) and 1 middle school (grades 6-9). In all schools, students were bussed, and came from suburban and rural communities. Participation by teachers was voluntary and limited to those cases where
consent to participate was obtained from school district and building-level administrators, building-level team members, and individual classroom teachers. District level administrators were recruited by letter, follow-up telephone contact and personal interview. Letters of introduction were sent to building administrators and were followed with telephone contact and a request for a personal interview. Letters of introduction were then sent to the chairperson of the building level team. All school district and building-level administrators, and school-building level teams consented to participation in the study. Each of the building-level teams had an active prereferral intervention load and had met on at least 10 intervention cases in the 6 months prior to selection of cases for the study. All teachers who referred cases to the team for the duration of the study were given letters of introduction requesting their participation in the study. Introductory materials explained the general purposes of the study, outlined the teacher's responsibilities for participation, and outlined payment for participation in the study. Payment consisted of a five dollar stipend for completion of study procedures. Copies of the introductory materials are included in Appendix B.

With three exceptions, all teachers who brought forward cases for prereferral intervention consented to participation in the study. Two of the three teachers who
did not consent reported that time constraints prevented their participation. The third indicated a distaste for research projects of any kind. These three teachers were not included in the study. Although the final sample was almost twice as large as originally planned, this was fortuitous because a variety of technical, logistic problems and circumstances beyond the control of the researcher resulted in partial data in several cases. Following completion of consent for participation, teachers completed a single-page demographic information form (See Appendix B).

Recording Prereferral Intervention Meetings

For each study case an experimenter arranged to make an audio-tape recording of the meeting verbal interactions. One of five experimenters or the researcher arranged to be present and tape-record meeting interactions for each prereferral intervention planning meeting. A remote conference microphone was placed on the meeting table prior to the beginning of each meeting. The total meeting session was recorded for each of the cases. All participants were informed of the procedures involved and had given permission prior to the beginning of the meeting. Following completion of the meeting tapes were coded by case number and data of meeting. Audio tape-recordings of meeting interactions were used in several subsequent analyses, and were used to prepare typewritten transcripts of meeting interactions between teachers and prereferral intervention planning
Observers coded teacher-committee interaction from audio-tape recordings made of prereferral intervention meetings using an adaptation of the Multivariate Ecological Observation System (Martens, Meller, & Springer, 1987). Pairs of observers listened to the taped meeting session and coded interactions independently, using separate personal computers linked in real-time. Coding categories were assigned to keyboard characters and were indicated on the computer monitor. Separate keys were set as triggers to record frequency of specific interaction types. Other keys were set as on-set off-set timers. The appropriate key was depressed at the beginning of a speaking turn by one category of speaker. When another key was depressed to indicate the beginning of a new speaker turn, the previous timer was turned off automatically. A separate key was assigned for each of the three speaker categories. Data were collected over the total duration of each meeting.

Four undergraduate and two graduate students were employed as coders. These coders were naive as to the purpose and methodology of the study. The study author served as calibrating observer during training reliability checks. Coders received three hours of training in the use of the MEOS-PI in two one and one half-hour sessions using several segments of non-study meeting tapes. Reliability
checks were obtained for all observations by having two independent raters code each meeting tape simultaneously. Reliability coefficients were calculated for each of the coding categories by calculating an intraclass correlation coefficient between raters total session score for each category. (Hartmann, 1982). Suen and Ary (1989) have recommended that this method be used when more than two observers function as data collectors. Through the use of the two-way ANOVA process, the total observed variance is decomposed into: main effect sum of squares for subjects, main effect sum of squares for observers, and error sum of squares. These effects divided by their corresponding degrees of freedom yield the corresponding mean squares which are used to estimate the underlying variance parameters for the three variance components. The subjects and observers are assumed to be random samples from a universe of possible subjects and a universe of possible observers. In this case, the effects due to observers, subjects and random error are separated. Suen & Ary (1989) suggest that the reliability of observations can be estimated by comparison of the magnitude of the variance components, or the intraclass correlation coefficient can be estimated directly from mean squares using the following formula suggested by Hartmann (1982):

$$\rho^2 = \frac{(MS_s \cdot MS_e)}{[MS_s + (n_o - 1)MS_e]}$$

where $n_o$ is the number of observers rating each subject,
MS_s is the mean square subjects,
and MS_e is the mean square error.

The intraclass correlation coefficients that were calculated for each measure of meeting verbal interaction are as follows: teacher questions, $\rho^2 = .88$, teacher answers, $\rho^2 = .92$, teacher comments, $\rho^2 = .84$, committee questions, $\rho^2 = .96$, committee answers, $\rho^2 = .86$, committee comments, $\rho^2 = .79$, teacher verbal interaction time, $\rho^2 = .99$, committee verbal interaction time, $\rho^2 = .93$, talkover time $\rho^2 = .90$.

In addition to the raw frequency counts for questions, answers, and comments, and time of verbal interaction for participants, two indexes of teacher and committee participation were derived: proportion of total meeting time in which teacher or committee members are interacting verbally; and proportion of total number of interaction which are teacher or committee questions or comments. The latter two proportions represent the extent to which teacher or committee are active initiators of interaction.

**Preparation of Meeting Transcripts**

Type-written transcripts of meeting verbal interactions were prepared for message classification coding. Transcripts were prepared in three stages. Initially, draft typed transcripts of each prereferral intervention meeting were prepared from meeting audio-tapes. These were verified and corrected by a second experimenter who also verified the
identity of the speaker (teacher or committee member) for each speaking turn. When two or more speakers were speaking at the same time, this was indicated as a Talkover and not attributed to either teacher or committee. The third stage involved identifying and marking independent clauses within each speaking turn. For the purpose of coding of message classification on the CAR, the first and last independent clause of each teacher and committee speaking turn was selected for coding. This sampling procedure follows that of Tracey and Ray (1984) and Witt, Erchul, McKee, Pardue, and Wickstrom (in press). A randomly selected subsample of cases was selected to determine the proportion of the total number of clauses which were selected for coding. Of five cases reviewed a mean of 82% of the total independent clauses were identified for coding. The selected clauses were verified by a second experimenter and each independent clause was assigned a number for coding. A total of 7158 interaction clauses from 37 prereferral intervention meetings were coded using the Consultation Analysis Record.

Coding meeting transcripts with the CAR

Three students, two graduate level, and one undergraduate student were trained as CAR coders. These coders were naive as to the purpose and methodology of the study. The study experimenter served as calibrating coder during reliability checks. Coders received at least 20 hours of training in the coding system, which consisted of
didactic presentation of the system, reading of training materials (Bergan & Kratochwill, 1990), practice with prior coded clauses, and samples of clauses from prereferral intervention team meetings. Each observer reached at least 85% agreement with criterion scored clauses before coding study clauses. For 12 of the meeting transcripts, two coders completed coding independently. Reliability of coding was assessed for each of the coding categories by calculating intraclass correlation coefficients for each subcategory of the system. The mean coefficients across all subcategories was .79, with a low of .56 for negative evaluation, and a high of .99 for teacher and committee source.

The intraclass correlation coefficients that were calculated for each subcategory of message classification are as follows: teacher source, $\rho^2 = .99$, committee source, $\rho^2 = .99$, background environment, $\rho^2 = .62$, behavior setting, $\rho^2 = .62$, behavior, $\rho^2 = .68$, individual characteristics, $\rho^2 = .91$, observation, $\rho^2 = .95$, plan, $\rho^2 = .74$, other content, $\rho^2 = .87$, negative evaluation, $\rho^2 = .52$, positive evaluation, $\rho^2 = .75$, inference, $\rho^2 = .80$, specification, $\rho^2 = .63$, summarization, $\rho^2 = .86$, negative validation, $\rho^2 = .97$, positive validation, $\rho^2 = .94$, elicitor, $\rho^2 = .95$, emitter, $\rho^2 = .96$.

In addition, interrater agreement across major coding dimensions was calculated using Cohen’s kappa (Bakeman &
Gottman, 1986; Cohen, 1960). Kappa is defined as follows:

\[ \kappa = \frac{P_o - P_c}{1 - P_c} \]

\(P_o\) is the proportion of agreement actually observed between raters, whereas \(P_c\) is the proportion expected by chance. \(P_o\) is computed by summing the tallies representing agreement in coding categories and dividing by the total number of tallies. \(P_c\) is computed by summing the row-column products and dividing by the total number of tallies squared. The resulting value indicates the amount of interrater agreement corrected for chance. Kappa values for each coding dimension averaged across the 12 cases coded by two raters were as follows: source, \(\kappa = .99\); process, \(\kappa = .68\); content, \(\kappa = .72\); control, \(\kappa = .86\).

Meeting process and outcome ratings

The tape-recorded proceedings of each prereferral intervention meeting were rated independently by two graduate students trained in consultation and intervention design. The raters were naive to the methodology of the study. Coders each received two hours training in the use of the PAORF and completed sample ratings with the researcher as calibrating observer prior to completing independent ratings of study audio-taped meeting interactions. Reliability of ratings was established computing Cohen's \(\kappa\) coefficient of reliability for each of the dichotomously scored items and computing intraclass correlation coefficients for each of the Likert-type items.
Reliability coefficients for both item types was high; for the dichotomously scored items mean $\kappa = .95$, and for the Likert-type items mean $\rho^2 = .86$. Reliability of the overall process and outcome rating was determined by calculation of coefficient alpha through the SPSS:X Reliabilities program. The estimated reliability for the nine-item total process and outcome rating was $\alpha = .81$, with a standard error of measurement, $SEM = 1.6$. Reliability for each of the subscales was also established. Internal consistency estimates for each scale were as follows: Teacher Involvement (3 items), $\alpha = .85$, $SEM = .80$, Meeting Process (2 items), $\alpha = .77$, $SEM = .91$.

Consumer satisfaction ratings

Following the prereferral intervention planning meeting, study teachers were asked to complete the TCSQ with reference to their experience with the specific case discussed in the meeting. Ratings were returned to the researcher in a self-addressed envelope. TCSQ responses were tabulated and scores derived for 4 study variables. An overall satisfaction subscale was formed of 15 items related to satisfaction with process and outcomes. Although several additional items on the scale related logically to overall satisfaction they were eliminated from the subscale because they appeared to be unreliable, and were not related to other scale items. Reliability of the overall satisfaction scale was estimated using 46 responses from study subjects.
with an internal consistency estimate of reliability $\alpha = .88$, $SEM = 2.54$. Reliability coefficients were also calculated for the 8-item satisfaction with outcomes scale, $\alpha = .92$, $SEM = 1.64$, and for the 7-item process satisfaction scale $\alpha = .85$, $SEM = 1.29$. The teacher rating of severity of child problem scale [2 items] yielded a reliability coefficient $\alpha = .72$, $SEM = 1.09$.

Intervention acceptability ratings

Teachers were administered the IRP at the same time they completed the TCSQ. Teachers completed this paper-and-pencil rating scale and returned it to the researcher in the self-addressed envelope. Teacher ratings on each scale item were tabulated and scale scores were derived for subsequent analyses. Internal consistency reliability coefficients were calculated for the total scale and each of the three item subscales. Coefficient alpha and the standard error of measurement for each scale were as follows: IRP total $\alpha = .86$, $SEM = 3.6$; General Acceptability $\alpha = .71$, $SEM = 1.52$; Risk to Child $\alpha = .85$, $SEM = .72$; Time $\alpha = .70$, $SEM = 1.47$; Effect on Others $\alpha = .82$, $SEM = 1.29$; Skill Required $\alpha = .79$, $SEM = 1.35$.

Intervention integrity ratings

The OIIRS was administered following each of two classroom observations of the implementation of prereferral interventions. Two undergraduate and three undergraduate experimenters served as classroom observers for integrity
ratings. Duration of each observation was approximately 30 minutes, and was scheduled to coincide with the teacher's planned implementation schedule. Observation times were established with the teacher following the initial meeting and occurred during the following three week period. Prior to the classroom observation session the observer read the Prereferral Intervention Protocol and any germane documentation. Documentation included copies of data charts, classroom contracts, or modified curriculum materials and the like. The Protocol and pertinent documents provided the operational definition of the planned intervention and were thus the criteria against which ratings of treatment integrity were made. Observers had copies of Protocols and documents available during observation and were encouraged to make notes regarding specifics of intervention implementation. Observers were trained in the rating procedure using mock implementation observations and resulted in an average interobserver percentage of agreement of 80% with training observations. Reliability was computed as agreements over agreements plus disagreements and multiplied by 100 (Hartmann, 1977). In order to establish reliability of OIIRS measures during study observations, percent interobserver agreement was established during independent observations and ratings between observers and the researcher who provided the calibrating rating. The independent ratings of integrity of
implementation were established for 12 observations and yielded an average interobserver agreement of 87%.

**Teacher integrity and change ratings**

The Teacher Intervention Follow-Up Form was administered to teachers to provide follow-up ratings of treatment implementation and child behavior change at the end of the prereferral intervention period. Teachers completed the two rating items and returned the scale to the researcher in a self-addressed envelope. All scales were identified only by case number and teachers were encouraged to reply completely and candidly.

**Teacher intervention interview**

Study teachers were administered the structured interview by the researcher or an advanced undergraduate student assistant approximately four weeks following the initial prereferral intervention meeting. Interviews were conducted out of class time, frequently in the staff lounge or lunchroom. Teacher responses to interview questions were audiotaped. At the completion of the interview session teachers were given a letter expressing the researcher’s appreciation for their participation in the study and included the stipend.

**Teacher Follow-up interview rating**

Two advanced school psychology graduate students trained in consultation and intervention design completed rating scales on teacher follow-up interview audio-tapes.
Each interview was coded separately by the two raters. Reliability of ratings was estimated by computing Cohen’s kappa for each of the rating items. Obtained reliability estimates were as follows: integrity, $\kappa = .82$; frequency of implementation, $\kappa = .87$; treatment effectiveness rating, $\kappa = .58$; child behavior change, $\kappa = .79$.

**Integrity Composite Scores**

Integrity of intervention implementation ratings were combined to form a composite rating for each case. To accomplish this, responses on each of the integrity measures were recoded as indicating evidence of high or low integrity. Ratings of "no evidence" or "partial or adapted implementation" were coded as low integrity. Similarly, ratings of "complete adoption of planned intervention" or "very minor modification" were coded as indicating high integrity. Expert ratings of teacher interview responses regarding frequency of implementation were coded high integrity for "implemented the whole time", responses indicating less frequent or no implementation were coded low integrity. Ratings on these recoded variables were summed to form an overall integrity rating. High scores indicated consistent evidence of high level of integrity of implementation; low scores indicated consistent evidence of low integrity. Reliability for the composite measure was $\alpha = .58$, $\text{SEM} = 0.87$, and product-moment correlations between original items and integrity composite were as follows:
FOLLOW1, $r = .81$, FOLLOW2, $r = .48$, OIIRS1, $r = .76$, OIIRS2A, $r = .66$, TIFF1, $r = .55$. The composite score was used in subsequent analyses to represent a consensus of level of intervention integrity for a case.
Results

Overview and Descriptive Analysis

Prereferral meeting participation

Meeting participation was operationalized in the study through the preparation of three separate data sets representing various facets of meeting participation including interaction frequency, time, and proportions derived from the MEOS-PI, percent of interactions in specific message classification categories on the CAR, and finally, ratings of teacher meeting involvement from the Process and Outcome Rating Form. Outcomes from each of these data sets and results of descriptive analyses are presented below.

MEOS-PI. Teacher and committee verbal interactions were observed and data gathered on eight categories of verbal interaction. The categories of verbal interaction included frequency counts of teacher and committee statements coded as questions, answers, and initiated comments, and cumulative teacher and committee member speaking time. In addition, two other time categories were observed including time in which more than one speaker was talking (talkover) and total meeting duration. Two sets of proportions were developed from these meeting data. These included proportion of meeting time in which a particular speaker, teacher or committee member, was speaking (TPROP, CPROP), and proportion of total meeting interactions which
were attributed to a particular speaker actively initiating a topic through the asking of a question or use of an initiated comment (TACTIVE, CACTIVE). Means and standard deviations for categories of measured and derived teacher and committee verbal interaction using MEOS-PI coding are presented in Table 3.

As indicated in Table 3, teachers asked an average of 3.6 questions during each meeting, whereas committee members directed an average of 30.5 questions to teachers. Teachers initiated an average of 15.6 comments compared with 36.5 for their committee counterparts. Committee members were found to speak on average 592 seconds per meeting, approximately 10 minutes, whereas teachers spoke on average 353 seconds, or 5.9 minutes. When compared with total meeting time, teachers were found to be engaged in verbal interaction 31% of the time, and committee members 54% of the time. The remaining 15% represented lapses in conversation or periods when more than one speaker was engaged in verbal interaction. The index of teacher and committee active initiation of interaction (TACTIVE, CACTIVE) (proportion of speaking turns which were comments or questions rather than answers to direct questions) indicates that teachers actively initiated interactions on average 17% of the time and committee members actively initiated interactions 57% of the time.
Table 3

Means and Standard Deviations for Teacher and Committee Verbal Interactions

<table>
<thead>
<tr>
<th>Category</th>
<th>Content</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>TQUES</td>
<td>Frequency of teacher questions to committee members</td>
<td>3.6</td>
<td>4.6</td>
</tr>
<tr>
<td>TANSR</td>
<td>Frequency of teacher answers to committee questions</td>
<td>21.9</td>
<td>12.1</td>
</tr>
<tr>
<td>TCOMM</td>
<td>Frequency of teacher comments (not in answer to question)</td>
<td>15.6</td>
<td>9.9</td>
</tr>
<tr>
<td>CQUES</td>
<td>Frequency of committee questions to teacher</td>
<td>30.5</td>
<td>18.0</td>
</tr>
<tr>
<td>CANSR</td>
<td>Frequency of committee answers to teacher questions</td>
<td>9.5</td>
<td>9.0</td>
</tr>
<tr>
<td>CCOMM</td>
<td>Frequency of committee comments (not in answer to question)</td>
<td>36.5</td>
<td>19.7</td>
</tr>
<tr>
<td>TTIME</td>
<td>Total teacher verbal interaction time</td>
<td>353.5</td>
<td>222.1</td>
</tr>
<tr>
<td>CTIME</td>
<td>Total committee verbal interaction time</td>
<td>592.8</td>
<td>332.7</td>
</tr>
<tr>
<td>TLKVR</td>
<td>Total verbal interaction time more than one speaker - talk over</td>
<td>105.4</td>
<td>112.6</td>
</tr>
<tr>
<td>TOTIME</td>
<td>Total verbal interaction time</td>
<td>1145.4</td>
<td>616.0</td>
</tr>
<tr>
<td>TPROP</td>
<td>Proportion of total meeting time in teacher verbal interaction</td>
<td>.31</td>
<td>.14</td>
</tr>
<tr>
<td>CPROP</td>
<td>Proportion of total meeting time in committee verbal interaction</td>
<td>.54</td>
<td>.16</td>
</tr>
<tr>
<td>TACTIVE</td>
<td>Proportion of total interactions which are teacher questions or comments</td>
<td>.17</td>
<td>.06</td>
</tr>
<tr>
<td>CACTIVE</td>
<td>Proportion of total interactions which are committee questions or comments</td>
<td>.61</td>
<td>.10</td>
</tr>
</tbody>
</table>

Note: * verbal interaction times are in seconds
n = 34

Prereferral meeting content and process. The meeting verbal interaction data was also analyzed in terms of frequency of teacher and committee member interactions in
specific verbal content, process and control dimensions using the Consultation Analysis Record (Bergan & Tombari, 1976). Meeting interactions were coded in each of four dimensions: (a) SOURCE, indicating the identity of the speaker as teacher or committee member, (b) CONTROL, indicating that the type of interaction was an Elicitor (a statement seeking information) or Emitter (a statement providing information), (c) CONTENT, indicating the specific topic of the interaction in one of seven exclusive categories including Background Environment, Behavior Setting, Behavior, Individual Characteristics, Observation, Plan or an omnibus Other topics, and (d) PROCESS, indicating the kind of speaker actions they describe vis-a-vis the content of the conversation, in one of seven subcategories including Specification, Positive and Negative Evaluation, Inference, Summarization, and Positive and Negative Evaluation. A total of 7158 interactions were coded, representing data from 37 prereferral intervention team meetings (M = 193.5, SD = 90.5) The number of interactions coded for each meeting ranged from a low of 77 to a high of 422; the median number of interactions coded for the 37 cases was 198. A summary of teacher and committee interactions in each of the seven coded content categories is presented in Table 4. Values in Table 4 represent average numbers of teacher and committee interactions in each content category expressed as a percentage of the total
number of interactions coded for each meeting. Thus, teacher and committee values sum to 100%.

Table 4

<table>
<thead>
<tr>
<th>Category</th>
<th>Mean Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Teacher</td>
</tr>
<tr>
<td>Background Environment</td>
<td>6.7</td>
</tr>
<tr>
<td>Behavior Setting</td>
<td>10.4</td>
</tr>
<tr>
<td>Behavior</td>
<td>11.7</td>
</tr>
<tr>
<td>Individual Characteristics</td>
<td>1.6</td>
</tr>
<tr>
<td>Observation</td>
<td>0.5</td>
</tr>
<tr>
<td>Plan</td>
<td>12.2</td>
</tr>
<tr>
<td>Other</td>
<td>3.3</td>
</tr>
</tbody>
</table>

Note. Percentages were calculated over \( n = 37 \) prereferral intervention meetings

The two groups were also studied separately with respect to the distribution of elicitor (seeking information) and emitter (giving information) interactions across the major content areas coded by subcategories of content and process. In order to facilitate this analysis total number of teacher interactions in each of the two control categories were summed and frequency in each subcategory was expressed as a percentage. Thus, the number of interactions across subcategories within elicitor or
emitter category sum to 100%. Means and standard deviations for interaction subcategories which averaged greater than 1% of teacher elicitors or emitters are presented in Table 5.

Table 6 presents the mean percentages and standard deviations for committee interactions in subcategories which averaged greater than 1% of the elicitor or emitter category.

The classification of teacher and committee verbal interaction into content, process and verbal control categories with the CAR is summarized in Table 7. Table 7 displays the means and standard deviations for teacher and committee verbal interactions expressed as percent of total meeting interactions. Values for categories with means of less than 1% of total are not shown. Mean values for teacher use of elicitors across content categories was less than 5% of the total interactions coded, (M = 4.2%). An average of 42% of the interactions were teacher emitters, 26% were committee elicitors, and 28% were committee emitters.

Teacher meeting participation ratings. The final measure of teacher participation in the prereferral intervention planning process was provided by independent judges who listened to audio tape-recordings of prereferral intervention planning meetings and provided ratings of teacher involvement using items from the Process and Outcome
Table 5

Means Percentages and Standard Deviations of Teacher Interactions Coded by Content and Process

<table>
<thead>
<tr>
<th>Category</th>
<th>Elicitors Mean</th>
<th>Elicitors S.D.</th>
<th>Emitters Mean</th>
<th>Emitters S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Background environment</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specification</td>
<td>1.9</td>
<td>5.5</td>
<td>9.4</td>
<td>8.4</td>
</tr>
<tr>
<td>Inference</td>
<td>1.9</td>
<td>2.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive validation</td>
<td>2.4</td>
<td>8.7</td>
<td>2.1</td>
<td>2.5</td>
</tr>
<tr>
<td><strong>Behavior setting</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specification</td>
<td>13.7</td>
<td>10.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inference</td>
<td>1.7</td>
<td>2.0</td>
<td></td>
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<tr>
<td>Summarization</td>
<td>1.3</td>
<td>1.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive validation</td>
<td>7.2</td>
<td>14.2</td>
<td>5.4</td>
<td>8.3</td>
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<tr>
<td><strong>Behavior</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inference</td>
<td>1.5</td>
<td>1.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specification</td>
<td>1.6</td>
<td>8.3</td>
<td>15.6</td>
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<td>1.4</td>
<td>1.2</td>
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<td><strong>Individual Characteristic</strong></td>
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<td>Specification</td>
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<td></td>
<td>1.4</td>
<td>1.7</td>
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<tr>
<td>Positive Validation</td>
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<td>4.7</td>
<td>1.0</td>
<td>1.9</td>
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<td>4.7</td>
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<tr>
<td>Inference</td>
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<tr>
<td>Positive Validation</td>
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<td>25.4</td>
<td>12.6</td>
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<tr>
<td><strong>Other</strong></td>
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<td></td>
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<td>Positive Evaluation</td>
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<td>10.3</td>
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<td>1.6</td>
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</table>

Note. Computations were based on \( n = 37 \) subjects. Tabled values represent mean percentage of elicitors and emitters in specific subcategories. Categories with mean values less than 1% of the total number of interactions are not reported.

Rating Form (PAORF). Three PAORF items ask judges to provide a rating of level of teacher participation in the
Table 6

Mean Percentages and Standard Deviations of Committee Interactions Coded by Content and Process

<table>
<thead>
<tr>
<th>Category</th>
<th>Elicitors Mean</th>
<th>Elicitors S.D.</th>
<th>Emitters Mean</th>
<th>Emitters S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Background environment</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inference</td>
<td>3.4</td>
<td>6.4</td>
<td>2.7</td>
<td>2.9</td>
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<tr>
<td>Specification</td>
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<td>11.0</td>
<td>1.5</td>
<td>2.0</td>
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<td><strong>Behavior setting</strong></td>
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<td>4.4</td>
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<td>10.5</td>
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<td>Positive validation</td>
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<td>6.7</td>
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<tr>
<td>Specification</td>
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<td>6.4</td>
<td>4.9</td>
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<tr>
<td>Summarization</td>
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<td>7.2</td>
<td>5.5</td>
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<tr>
<td><strong>Individual Characteristics</strong></td>
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<td></td>
</tr>
<tr>
<td>Specification</td>
<td>1.2</td>
<td>3.0</td>
<td>1.9</td>
<td>3.1</td>
</tr>
<tr>
<td>Positive Validation</td>
<td>1.9</td>
<td>3.5</td>
<td>1.2</td>
<td>2.1</td>
</tr>
<tr>
<td><strong>Observation</strong></td>
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<td></td>
</tr>
<tr>
<td>Specification</td>
<td>3.1</td>
<td>5.5</td>
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<tr>
<td><strong>Plan</strong></td>
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</tr>
<tr>
<td>Inference</td>
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</tr>
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<td>7.6</td>
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<tr>
<td>Positive validation</td>
<td>2.9</td>
<td>3.8</td>
<td>3.4</td>
<td>5.1</td>
</tr>
</tbody>
</table>

**Note.** Computations were based on n = 37 subjects. Tabled values represent mean percentage of elicitors and emitters in specific subcategories. Categories with mean values less than 1% of interactions are not reported.

prereferral intervention planning meeting; these focus on the degree to which the teacher was an active participant in defining the problem, the degree of level of teacher participation in planning the intervention for the child,
### Table 7

**Mean Percentages and Standard Deviations of Teacher and Committee Content, Process, and Control Interactions**

<table>
<thead>
<tr>
<th>Category</th>
<th>Elicitors</th>
<th>Emitters</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean S.D.</td>
<td>Mean S.D.</td>
</tr>
<tr>
<td><strong>Background environment</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specification</td>
<td>4.4 4.2</td>
<td></td>
</tr>
<tr>
<td><strong>Behavior setting</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specification</td>
<td>6.4 5.3</td>
<td></td>
</tr>
<tr>
<td>Positive validation</td>
<td>2.0 2.7</td>
<td></td>
</tr>
<tr>
<td><strong>Behavior</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specification</td>
<td>7.2 3.3</td>
<td></td>
</tr>
<tr>
<td>Positive Validation</td>
<td>2.1 1.7</td>
<td></td>
</tr>
<tr>
<td><strong>Plan</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specification</td>
<td>3.8 3.0</td>
<td></td>
</tr>
<tr>
<td>Positive Validation</td>
<td>5.2 3.6</td>
<td></td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specification</td>
<td>1.9 2.3</td>
<td></td>
</tr>
<tr>
<td>Positive Validation</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Teacher Total</strong></td>
<td>44%</td>
<td>42%</td>
</tr>
<tr>
<td><strong>Committee Source</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Background environment</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specification</td>
<td>2.8 2.9</td>
<td></td>
</tr>
<tr>
<td>Positive validation</td>
<td>1.4 1.6</td>
<td>1.2 1.3</td>
</tr>
<tr>
<td><strong>Behavior setting</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specification</td>
<td>2.3 3.4</td>
<td></td>
</tr>
<tr>
<td>Positive validation</td>
<td>1.6 1.7</td>
<td>1.6 1.4</td>
</tr>
<tr>
<td><strong>Behavior</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specification</td>
<td>1.4 1.3</td>
<td>2.5 2.0</td>
</tr>
<tr>
<td>Summarization</td>
<td>2.5 1.8</td>
<td>2.1 1.7</td>
</tr>
<tr>
<td>Positive validation</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Plan</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inference</td>
<td>1.1 1.6</td>
<td></td>
</tr>
<tr>
<td>Specification</td>
<td>8.4 4.6</td>
<td>1.4 1.6</td>
</tr>
<tr>
<td>Positive validation</td>
<td>3.1 2.2</td>
<td>1.6 1.7</td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specification</td>
<td>1.8 1.3</td>
<td></td>
</tr>
<tr>
<td><strong>Committee Total</strong></td>
<td>26%</td>
<td>28%</td>
</tr>
</tbody>
</table>

**Note.** N = 37 subjects

Tabled values represent mean percentage of total meeting verbal interactions.

* Column percentages indicate total interactions across all subcategories, categories with mean values less than 1% are not reported.
and a global rating of level of teacher verbal interaction and overall participation in the meeting. These three items were grouped logically to form a teacher involvement scale reflecting raters' judgements about teacher participation in the prereferral intervention process. Means and standard deviations of judges' ratings of teacher participation are presented in Table 8.

Table 8
Means and Standard Deviations for Ratings of Teacher Participation in Prereferral Intervention Planning

<table>
<thead>
<tr>
<th>Category</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher active participation in defining the child's problem</td>
<td>3.6</td>
<td>.73</td>
</tr>
<tr>
<td>(1=uninvolved, to 5=dominant)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teacher active participation in planning the intervention</td>
<td>2.9</td>
<td>.99</td>
</tr>
<tr>
<td>(1=uninvolved, to 5=dominant)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teacher overall meeting participation</td>
<td>3.7</td>
<td>.71</td>
</tr>
<tr>
<td>(1=uninvolved, to 5=dominant)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Teacher Involvement Scale (3 items)</td>
<td>10.2</td>
<td>2.07</td>
</tr>
</tbody>
</table>

Note. Note: n = 43 subjects; ratings represent average responses from two independent raters, r = .89.

The ratings displayed in Table 8 indicate that the average level of teacher participation in prereferral intervention meetings was rated to be moderate to very involved. Average item rating for the three item scale (M = 3.4) indicated at least moderate involvement in the
important dimensions of problem identification, plan identification and overall participation in the prereferral intervention planning process. Despite the overall moderately to very involved ratings, in the area of planning interventions mean teacher ratings were in the minimally to moderately involved range. This area was also seen to be the area with the greatest variation between teachers in terms of involvement overall. In addition to the three teacher participation items, judges were asked to provide a subjective rating of the degree of group collaboration evidenced in the meeting audio-tape. Group collaboration was defined as the extent to which participants engaged in a collaborative process characterized by reciprocity of roles, sharing of responsibility, and maintenance of a problem-solving focus. Mean scores on the group collaboration item were moderate ($M = 3.3$, $SD = .73$) indicating most meetings were somewhat to very much indicative of group collaborative effort. Finally, a composite of the process and outcomes ratings was formed from 9 of the PAORF items to give a global rating score for meeting process and outcome. This scale contained ratings of the meeting process, teacher involvement, group collaboration and several specific outcome dimensions (e.g., degree of specification of the problem and intervention plans, plan effectiveness, ease of use).

Scores on the total process measure ranged from 19 to 38
with a mean score of 29 (SD = 4.6, n = 40). Average item rating across the scale was 3.2, in the moderate range. Teachers were rated to be moderately to very involved in the prereferral intervention planning meetings observed by independent raters. Average ratings of participation in planning of the intervention, however, indicated minimal to moderate involvement with considerable variability across cases. Ratings of group collaboration and overall process and outcome ratings were also in the moderate range.

**Teacher Consumer Satisfaction**

Teachers completed the Teacher Consumer Satisfaction Questionnaire immediately following the prereferral intervention planning meeting. Teachers responded to each of the 22 Likert-type items by rating their agreement (from 'strongly disagree' to 'strongly agree') with each statement. A summary of item level means and standard deviations and brief item content is presented in Table 9.

Scale means and standard deviations for the sample as well as mean item rating and internal consistency reliability estimates for each of the consumer satisfaction measure scales are displayed in Table 10.

The mean ratings displayed in Table 10 indicate that, overall, teachers were moderately to very satisfied with the processes and outcomes of their prereferral intervention planning meeting. This was particularly evident with respect to teacher ratings for the satisfaction with process
### Table 9

**Means and Standard Deviations for TCSQ**

<table>
<thead>
<tr>
<th>Question</th>
<th>Content</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Committee helpful in planning intervention</td>
<td>3.8</td>
<td>.76</td>
</tr>
<tr>
<td>2</td>
<td>Adequate time and opportunity to contribute</td>
<td>4.2</td>
<td>.58</td>
</tr>
<tr>
<td>3</td>
<td>Goals cannot be accomplished in time established</td>
<td>3.5 *</td>
<td>.98</td>
</tr>
<tr>
<td>4</td>
<td>Better understanding of child as result of meeting</td>
<td>3.1</td>
<td>1.03</td>
</tr>
<tr>
<td>5</td>
<td>Contributions treated as valuable and important</td>
<td>4.3</td>
<td>.57</td>
</tr>
<tr>
<td>6</td>
<td>Intervention plans from meeting much better than my own</td>
<td>2.9</td>
<td>.80</td>
</tr>
<tr>
<td>7</td>
<td>Child’s problems too severe to be handled in the regular class</td>
<td>3.0 *</td>
<td>.93</td>
</tr>
<tr>
<td>8</td>
<td>Committee made valuable contributions</td>
<td>3.9</td>
<td>.70</td>
</tr>
<tr>
<td>9</td>
<td>Committee blamed me for the child’s problems</td>
<td>4.6 *</td>
<td>.49</td>
</tr>
<tr>
<td>10</td>
<td>My questions about the child, process, and interventions not answered</td>
<td>3.9 *</td>
<td>.86</td>
</tr>
<tr>
<td>11</td>
<td>Committee helped develop interventions</td>
<td>3.8</td>
<td>.75</td>
</tr>
<tr>
<td>12</td>
<td>Child will probably qualify for special education</td>
<td>3.3 *</td>
<td>1.00</td>
</tr>
<tr>
<td>13</td>
<td>My responsibilities for intervention implementation are clear</td>
<td>4.0</td>
<td>.56</td>
</tr>
<tr>
<td>14</td>
<td>Meeting made me better at intervention planning</td>
<td>2.9</td>
<td>.86</td>
</tr>
<tr>
<td>15</td>
<td>Meeting was valuable use of my time</td>
<td>3.3</td>
<td>1.14</td>
</tr>
<tr>
<td>16</td>
<td>Regular classroom interventions will not solve this child’s problems</td>
<td>3.4 *</td>
<td>.87</td>
</tr>
<tr>
<td>17</td>
<td>Overall, I am satisfied with the intervention planning process</td>
<td>3.2</td>
<td>1.12</td>
</tr>
<tr>
<td>18</td>
<td>Planned interventions are too time consuming for my classroom.</td>
<td>3.8 *</td>
<td>.84</td>
</tr>
<tr>
<td>19</td>
<td>Committee tried to see problems from my perspective</td>
<td>3.9</td>
<td>.54</td>
</tr>
<tr>
<td>20</td>
<td>Results of interventions reflect child’s instructional needs</td>
<td>3.2</td>
<td>.94</td>
</tr>
<tr>
<td>21</td>
<td>Child’s problems more difficult to manage than those of classmates</td>
<td>3.1</td>
<td>1.35</td>
</tr>
<tr>
<td>22</td>
<td>Interventions from meeting help with referred problem</td>
<td>3.5</td>
<td>.85</td>
</tr>
</tbody>
</table>

**Note:** * = scoring is reversed for this item.
All items are scored on a five-point Likert-type scale,
1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree.
Table 10

Means, Standard Deviations, and Reliabilities for Consumer Satisfaction Scales

<table>
<thead>
<tr>
<th>Scale (items)</th>
<th>Scale Mean</th>
<th>Standard Deviation</th>
<th>Item Mean</th>
<th>Scale Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall Satisfaction</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15 items (1,2,5,6,8-11, 13-15,17,19,20,22)</td>
<td>55.6</td>
<td>7.2</td>
<td>3.7</td>
<td>.88</td>
</tr>
<tr>
<td>Outcomes Satisfaction</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 items (1,6,8,14,15, 17,20 22)</td>
<td>26.6</td>
<td>5.8</td>
<td>3.3</td>
<td>.92</td>
</tr>
<tr>
<td>Process Satisfaction</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 items (2,5,9,10,11, 13,19)</td>
<td>29.0</td>
<td>3.3</td>
<td>4.1</td>
<td>.85</td>
</tr>
<tr>
<td>Severity of Problem</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 items (7,21)</td>
<td>6.1</td>
<td>2.0</td>
<td>3.0</td>
<td>.72</td>
</tr>
</tbody>
</table>

Note: Item means refer to average rating for items within each scale. All items are scored on a five-point scale, 1=strongly disagree, 3=neutral, 5=strongly agree.

scale. Teachers were in generally strong agreement that they had adequate opportunity to contribute to the process and that their contributions were treated as valuable by other committee members. They indicated further that they had few questions about the child, the interventions or the next steps in the process that were not answered. Teachers indicated quite strongly that they did not feel blamed for
the child’s problems, rather they indicated that committee members made an effort to understand the child’s problems from the teacher’s perspective. In general, committee members were rated as being helpful in designing interventions which could be easily implemented and for which the teachers responsibilities for implementation were clear.

Teacher ratings on the satisfaction with outcomes scale were also generally positive, although somewhat less so than those for satisfaction with meeting process. Teachers indicated mild disagreement with statements that the interventions developed in the meeting were an improvement over what the teacher had already tried prior to the meeting, and disagreed also with the statement that they had become better at solving classroom problems as a result of participating in the prereferral intervention planning process. Teachers demonstrated greater agreement with statements which indicated that related to committee involvement and helpfulness in developing interventions to address the referral problem, although they indicated slightly more than a neutral response to the value of the intervention in providing a realistic picture of the child’s instructional needs.

Teacher Ratings of Treatment Acceptability

Teachers completed the Intervention Rating Profile following their meeting with the prereferral intervention
team to provide treatment acceptability information regarding the intervention(s) developed during the planning process. A summary of mean scores and standard deviations for each of the IRP scales is presented in Table 11.

Table 11
Means and Standard Deviations for Intervention Rating Profile Subscales and Total Score

<table>
<thead>
<tr>
<th>Scale (items)</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>IRP Total</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15 items (1-15)</td>
<td>70.02</td>
<td>9.2</td>
</tr>
<tr>
<td>General Acceptability</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 items (1,10,15)</td>
<td>13.75</td>
<td>2.7</td>
</tr>
<tr>
<td>Risk to Child</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 items (5,7,11)</td>
<td>15.79</td>
<td>1.8</td>
</tr>
<tr>
<td>Time</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 items (4,8,13)</td>
<td>13.32</td>
<td>2.8</td>
</tr>
<tr>
<td>Effect on Others</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 items (3,6,14)</td>
<td>13.24</td>
<td>3.0</td>
</tr>
<tr>
<td>Skill Required</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 items (2,9,12)</td>
<td>13.57</td>
<td>3.0</td>
</tr>
</tbody>
</table>

Note. Calculations are based on N = 51 teacher ratings. Acceptability ratings on the total scale can range from 15 to 60. Ratings on 3-item subscales can range from 3 to 18.

Teacher ratings of prereferral interventions summarized in Table 11 indicate relatively high levels of treatment acceptability based on mean scores for the total scale, as well as for the five subscales. Teachers apparently found the prereferral interventions "appropriate, fair and
reasonable for the problem or client" (Kazdin, 1981, p. 483). In particular, teachers rated the interventions overall as posing low risk to the child, and indicated at least slight agreement that the interventions were reasonable in terms of time required for implementation, they presented limited threat of 'side effects' on other students, and made little demand for technical or specialized training for implementation.

**Integrity of Intervention Implementation**

In the context of the study integrity of intervention implementation was measured in several ways. Initially, classroom implementation of planned interventions was observed directly over two occasions during the prereferral intervention period and rated for integrity in comparison with the Prereferral Intervention Protocol using the Observed Intervention Implementation Rating Scale (OIIERS). The second measure of intervention integrity was a rating of intervention integrity completed by the teacher at the end of the prereferral intervention implementation period. The third measure of intervention integrity was a rating by independent judges of the level of intervention integrity indicated in comparison of the intervention described by the teacher in the follow-up interview and the intervention described in the Prereferral Intervention Protocol. Results of each of the measures of intervention integrity are presented below.
OIIRS. Classroom observations and integrity ratings were gathered on 47 cases on at least one occasion. For 36 of the prereferral intervention cases a second observation and integrity rating was completed. Classroom observers rated the level of intervention integrity in one of four categories; "no evidence of implementation", "partial or adapted implementation", "very minor modifications", or "evidence of complete adoption." Results of the two sets of ratings are presented in Table 12. Observers rated 43% of first observations and 53% of second observations as showing evidence of complete implementation of the intervention as described in the Prereferral Intervention Protocol. A total of 38% of the first observations were rated as evidencing only partial or adapted implementation or there was no evidence of implementation. Nineteen percent of the observations were rated as showing very minor modifications in the plan. The increase in proportion of cases which evidenced high integrity of implementation between first and second observation was accompanied by slight decreases in membership in each of the other rating categories. Correlation between integrity rating assignment was moderate and significant ($r = .53$, $p = .001$) indicating that level of rated integrity was at least somewhat stable across observation sessions.

Teacher Integrity Ratings. Teacher self-ratings of integrity of treatment implementation were gathered at the
Table 12

**Frequency and Percent of Integrity of Intervention Implementation**

<table>
<thead>
<tr>
<th>Level of Implementation</th>
<th>Observation 1</th>
<th>Observation 2</th>
<th>Teacher Rating</th>
<th>Teacher Interview</th>
</tr>
</thead>
<tbody>
<tr>
<td>No evidence</td>
<td>9 (19%)</td>
<td>6 (17%)</td>
<td>1 (2%)</td>
<td>2 (4%)</td>
</tr>
<tr>
<td>Partial</td>
<td>9 (19%)</td>
<td>6 (17%)</td>
<td>3 (6%)</td>
<td>7 (14%)</td>
</tr>
<tr>
<td>Minor changes</td>
<td>9 (19%)</td>
<td>5 (14%)</td>
<td>6 (12%)</td>
<td>28 (57%)</td>
</tr>
<tr>
<td>Complete</td>
<td>20 (43%)</td>
<td>19 (53%)</td>
<td>40 (80%)</td>
<td>12 (24%)</td>
</tr>
</tbody>
</table>

\[ n = 47 \quad n = 36 \quad n = 50 \quad n = 49 \]

completion of the two- or three-week prereferral intervention period. Of 50 teachers who provided self-ratings of level of implementation, 40 teachers (80%) rated their implementation as complete adoption of the intervention as planned in the initial meeting. Six teachers acknowledged minor changes in intervention, and 3 rated their implementation as partial. One teacher provided a rating no implementation.

**Teacher Follow-Up Interview Integrity Ratings.** Judges rated the level of intervention integrity based on teacher descriptions of the interventions they implemented in their classrooms. These ratings indicated 24% of cases as being complete adoption of interventions as agreed upon at the planning meeting. Minor changes accounted for 57% of the
cases. Of the remaining ratings, 14% were rated as partial or adapted implementation and 4% as no evidence of implementation. In addition to rating level of integrity of intervention implementation, judges rated the frequency with which the teacher reports having implemented the intervention. Ratings of frequency of implementation were made on a three-point scale including 'not at all', 'part time', 'whole time'. Ratings of frequency of implementation indicated 69% of teachers provided interview responses which were rated as showing that the teacher implemented the intervention the whole time over the intervention period. Twenty-nine percent of teacher responses were rated as part time implementation and 1 as not implemented at all.

The frequency and percent of intervention implementation across measures of intervention integrity are summarized in Table 12.

In order to investigate the relationship between the multiple ratings of intervention integrity and to, rating scores for each of the measures were intercorrelated, resulting in the correlation matrix presented in Table 13. Note the inclusion of the frequency of implementation rating from the follow-up teacher interview ratings.

The correlations displayed in Table 13 indicate moderate and significant relations between measures within method, and positive, but not significant correspondence in ratings across methods of measuring intervention integrity.
The correlation between the second classroom observation of implementation and teacher rated frequency of intervention implementation was very low. Likewise, teacher self-ratings of integrity of implementation appear to bear little direct relationship to ratings based on information provided during the follow-up interview. It is interesting to note that the observation ratings were related positively with all other measures of integrity, with the exception of the low correlation between the integrity ratings from the second observation and ratings of frequency of implementation.

Frequencies for composite ratings of intervention integrity are presented in Table 14. As indicated, in only
2 cases, no evidence of implementation was found. For 33% of the cases, there was consistent evidence of high integrity of intervention implementation. Of the total cases for which all measures of integrity were administered, approximately 85% were rated as being implemented with acceptable level of integrity on at least three indices of implementation.

Table 14
Frequency and Percentage of Integrity Composite Ratings

<table>
<thead>
<tr>
<th>Composite Rating</th>
<th>Frequency(Percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>2 (6%)</td>
</tr>
<tr>
<td>1</td>
<td>2 (6%)</td>
</tr>
<tr>
<td>2</td>
<td>1 (3%)</td>
</tr>
<tr>
<td>3</td>
<td>7 (21%)</td>
</tr>
<tr>
<td>4</td>
<td>10 (30%)</td>
</tr>
<tr>
<td>5</td>
<td>11 (33%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>33</strong></td>
</tr>
</tbody>
</table>

*Note.* Composite ratings are based on number of component measures rated as showing evidence of intervention integrity.

Child Behavior Change

Child behavior change during the prereferral intervention period was measured on two occasions. One section of the Teacher Intervention Follow-Up Form asked teachers to rate the degree and direction in which they had observed the child change during the intervention period.
In addition, the follow-up interview asked teachers to describe what difference the intervention had made for the child with respect to the referral problem(s). These responses were rated by judges with respect to degree and direction of child behavior change using a scale corresponding to that used by the teacher on the TIFF.

Teacher self-ratings of child behavior change indicated that in 26% of cases the children were a little better, and 10% indicated the child being much better. In total, teachers rated 36% of the children as having improved at least somewhat during the period in which the prereferral intervention was undertaken. Two percent were rated as much worse and 10% as a little worse. The majority of children (52%) were rated as about the same. Ratings of child behavior change by independent judges found 39% about the same, 43% a little better and 18% much better. Child behavior change ratings are summarized in Table 15.

Correlation between measures of child behavior change was moderate and significant ($r = .36, p = .006$)

**Hypotheses**

**Hypothesis 1: Teacher Participation in Prereferral Intervention Planning Meetings**

It was hypothesized that referring teachers would be unequal participants in the prereferral intervention planning process. This hypothesis was addressed through analysis of verbal interaction data from the MEOS-PI and the
Table 15

Means, Standard Deviations, and Frequency Counts for Measures of Child Behavior Change

<table>
<thead>
<tr>
<th>Measure</th>
<th>Teacher Rating</th>
<th>Interview Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Rating</td>
<td>3.32</td>
<td>3.80</td>
</tr>
<tr>
<td>S.D.</td>
<td>.87</td>
<td>.74</td>
</tr>
<tr>
<td>N</td>
<td>50</td>
<td>49</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Teacher Rating</th>
<th>Interview Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Much Worse</td>
<td>1 (2%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>A Little Better</td>
<td>5 (10%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>About the Same</td>
<td>26 (52%)</td>
<td>19 (39%)</td>
</tr>
<tr>
<td>A Little Better</td>
<td>13 (26%)</td>
<td>21 (43%)</td>
</tr>
<tr>
<td>Much Better</td>
<td>5 (10%)</td>
<td>9 (18%)</td>
</tr>
</tbody>
</table>

Note. Correlation between ratings of child behavior change is significant (r = .36, p = .006)

CAR. Results of each set of analyses are presented below.

Means and standard deviations for frequency, cumulative duration and proportions of interaction types for 34 prereferral intervention cases were presented earlier in Table 3. In order to determine if there were significant differences between the verbal participation measures for committee members and teachers, separate Hotelling's $T^2$ analyses were conducted on the MEOS-PI frequency and proportional measures. In order to
stabilize variances prior to analysis of the proportional measures, these data were transformed using an arcsin transformation as suggested by Winer (1971). The Hotelling's $T^2$ analysis of all frequency measures indicated that committee members engaged in a significantly greater number of verbal interactions than did their teacher counterparts, $F(2,32) = 64.9$, $p < .001$, $\eta^2 = .80$, power = .999. In order to determine whether these differences held for all specific types of interactions, univariate multiple comparisons were conducted. To ensure that the problem of escalating Type 1 error rate did not occur for these comparisons, the experiment-wise error rate was set at $\alpha = .05$. Using the Bonferroni procedure (Winer, 1971) the critical significance level for the individual $t$-tests was computed as $.05/3 = .017$. Committee members asked more questions, $t(34) = -8.61$, $p < .001$, and made greater number of unsolicited comments, $t(34) = -8.38$, $p < .001$ than did teachers. However, teachers answered a significantly greater number of questions, $t(34) = 6.41$, $p < .001$, than did committee members.

Results from a Hotelling's $T^2$ analysis of the proportional contribution measures indicated a significant difference between teacher and committee groups, $F(1,33) = 23.4$, $p < .001$, $\eta^2 = .415$, power = .997. Again the experiment-wise error rate was set at .05, and using the Bonferroni procedure the critical significance level for
each t-test was \( \frac{.05}{2} = .025 \). Univariate t-tests revealed that committee members had a significantly greater proportion of the verbal interaction time during prereferral intervention meetings, \( t(34) = -5.32, p < .001 \), and that in terms of active initiation of interactions teachers were significantly less active than were committee members, \( t(34) = -17.63, p < .001 \). Results of the post hoc analyses are summarized in Table 16.

Table 16

<table>
<thead>
<tr>
<th>Category</th>
<th>Teacher</th>
<th>Committee</th>
<th>M</th>
<th>SD</th>
<th>M</th>
<th>SD</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Questions</td>
<td>3.6</td>
<td>4.6</td>
<td>30.5</td>
<td>18.0</td>
<td>-8.61</td>
<td>.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Answers</td>
<td>21.9</td>
<td>12.1</td>
<td>9.5</td>
<td>9.0</td>
<td>6.41</td>
<td>.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comments</td>
<td>15.6</td>
<td>9.9</td>
<td>36.5</td>
<td>19.7</td>
<td>-8.38</td>
<td>.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proportion*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total interactions</td>
<td>.31</td>
<td>0.14</td>
<td>.54</td>
<td>0.16</td>
<td>-5.32</td>
<td>.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Active participation</td>
<td>.17</td>
<td>0.06</td>
<td>.61</td>
<td>0.10</td>
<td>-17.63</td>
<td>.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(questions + comments)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total interactions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. \( n = 34 \) cases for each comparison.

* Proportional data were rescaled with arcsin transformation.

Data from the MEOS-PI observation of 34 prereferral intervention team meetings as presented above indicates teachers are active participants in the prereferral intervention planning process, speaking approximately 31% of
the time on average. However, teacher participation appears to consist primarily of the answering of questions, whereas committee member interactions which consumed approximately 54% of the meeting time were primarily in the form of questions and initiated comments. If active teacher participation is measured in terms of the proportion of questions and initiated comments made by a speaker, teacher participation in these sessions is quite limited, averaging only 17% of meeting interactions compared with committee member activity on this dimension of over 60%.

Verbal interaction data from the CAR were summarized in Table 4. These data were analyzed in order to determine if teachers and committee members differed in the percentage of interactions in each of the coded content areas. The tabulated data were analyzed using a log-linear likelihood ratio chi square analysis. This analysis tests the appropriateness of an equiprobability model to describe the distribution of scores. (Bishop, Feinberg, & Holland, 1975; Wickens, 1989). Thus, a large value for the $\chi^2$ test statistic would indicate that teachers and committee members differ in the distribution of their interactions across content categories. Results of the log-linear analysis revealed that teachers and committee members did not differ significantly in the mean percentage of interactions each group was observed to use in the seven content categories, $\chi^2(6) = 1.41, p = .965$. Standardized residuals
(standardized differences between observed and expected frequencies) all fell within the range ± .51. Although teachers and committee members may spend more or less time directing attention to specific topic areas, both groups were similar in the proportion of interactions each used in each particular area.

In order to determine if teachers and committee members differed in their percentage of interactions in particular content areas with respect to use of emitters and elicitors, percentage of total meeting values for teacher and committee interactions were analyzed using a hierarchical log-linear analysis (Bishop, Feinberg, & Holland, 1975). Since observations are not normally or continuously distributed with a constant variance, the use of analysis of variance or other regression models are inappropriate. Hierarchical log-linear analysis allows an efficient iterative model fitting process for testing relationships among categorical variables in multi-dimensional contingency tables. Log-linear models are a special type of regression model in which all variables are treated as independent, and the number of observations in a cell is treated as the dependent variable. Given an acceptable fit for the overall model (based on Likelihood Ratio Chi Square), coefficients and standardized coefficients are examined to determine the direction and significance of the variable and interaction effects in the overall model.
Log-linear models are hierarchical in that for higher order effects (i.e., interactions) to be included in a model all lower order effects which are part of the higher order effects must also be in the model. This approach is particularly useful in cases where there is a likelihood of complex multi-way interactions among the data. The use of this procedure with the current data set was somewhat exploratory since the number of cells in the contingency table (28) was large and the N of 36 relatively small. In light of this, analysis of the full data set which includes process subcategories was inappropriate.

Data values used in the analysis were frequency counts of number of cases which had greater than 3.6% of total interactions in a particular cell of the 2 (source) x 2 (control) x 7 (content) contingency table. With a 2 x 2 x 7 cross-classification the percentage of assignment to a particular cell by chance is 3.57%. Thus each case which made greater than chance use of a particular category was counted as an occurrence in the frequency table used in the analysis. Table 17 presents frequency counts for number of cases which met this criterion for each of the subcategories. Median percentages for each category are presented in parentheses.

The initial model used for this analysis was the saturated model which included the third order effect for SOURCE by CONTROL by CONTENT and all lower order effects
Table 17

Observed Frequencies of Cases and Median Percentage by Category

<table>
<thead>
<tr>
<th>Category</th>
<th>TEACHER</th>
<th>COMMITTEE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ELICITOR</td>
<td>Emitter</td>
</tr>
<tr>
<td></td>
<td>F  MDN</td>
<td>F  MDN</td>
</tr>
<tr>
<td>BACKGROUND</td>
<td>0 (0%)</td>
<td>24 (5%)</td>
</tr>
<tr>
<td>SETTING</td>
<td>1 (0%)</td>
<td>28 (8%)</td>
</tr>
<tr>
<td>BEHAVIOR</td>
<td>0 (0%)</td>
<td>35 (11%)</td>
</tr>
<tr>
<td>INDIVIDUAL</td>
<td>0 (0%)</td>
<td>6 (1%)</td>
</tr>
<tr>
<td>OBSERVATION</td>
<td>0 (0%)</td>
<td>1 (0%)</td>
</tr>
<tr>
<td>PLAN</td>
<td>6 (1%)</td>
<td>32 (10%)</td>
</tr>
<tr>
<td>OTHER</td>
<td>0 (0%)</td>
<td>9 (3%)</td>
</tr>
</tbody>
</table>

Note. N=36 prereferral intervention team cases. Frequencies in each subcategory represent number of cases with greater than 3.6% of meeting interactions coded in that classification.

Involving these variables as well as the grand mean. The model selection procedure used was a backward elimination approach similar to that used in regression analysis (Wickens, 1989). At the first step in the analysis, the third-order interaction was examined. Other effects implied by the model are then tested for elimination. At the first step the effect whose removal results in the least-significant change in the likelihood ratio chi square is eligible for elimination, provided that the observed significance level is larger than the criterion for remaining in the model. The goal of the process is
development of the most parsimonious model which adequately represents the data. The final model in this analysis included second order and lower effects.

A test of the hypothesis that two way effects were zero resulted in a significant likelihood chi square ($L^2(13) = 124.38, p = .000$). The backward elimination procedure resulted in removal of the 3-way term and one of the 2-way terms. Removal of either of the remaining 2-way effects from the model resulted in a significant change in $L^2$. The likelihood ratio chi square is used to test the goodness of fit for the overall model. The fit of this model is acceptable ($L^2(12) = 17.44, p = .134$), however the difference in chi square values between the model and the test for level of effects suggests that not all second and first order effects were significant. In order to test individual terms in the model, partial likelihood-ratio chi square values were calculated for each effect remaining in the second order model. Partial likelihood-ratio chi square values are calculated by successively fitting two models which differ only in the presence of each effect to be tested and calculating the likelihood-ratio chi square value for each model. The difference between the two likelihood-ratio chi square values can be used to test the hypothesis that the specific effect is zero. Partial likelihood-ratio chi square values and their observed significance levels for each of the effects in the model are presented in Table 18.
Table 18

Partial Likelihood-Ratio Chi Square Values for Hierarchical Log-Linear Model With Two-way Effects

<table>
<thead>
<tr>
<th>EFFECT</th>
<th>df</th>
<th>PARTIAL $\chi^2$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOURCE by CONTROL</td>
<td>1</td>
<td>78.209</td>
<td>.0000</td>
</tr>
<tr>
<td>CONTROL by CONTENT</td>
<td>6</td>
<td>48.356</td>
<td>.0000</td>
</tr>
<tr>
<td>SOURCE by CONTENT</td>
<td>6</td>
<td>11.704</td>
<td>.0689</td>
</tr>
<tr>
<td>CONTENT</td>
<td>6</td>
<td>187.816</td>
<td>.0000</td>
</tr>
<tr>
<td>CONTROL</td>
<td>1</td>
<td>72.103</td>
<td>.0000</td>
</tr>
<tr>
<td>SOURCE</td>
<td>1</td>
<td>3.246</td>
<td>.0716</td>
</tr>
</tbody>
</table>

Note. $N = 36$

The findings displayed in Table 18 indicate significant 2-way effects or associations, involving teacher and committee use of elicitors and emitters (SOURCE by CONTROL), and differential distribution of elicitors and emitters across content categories (CONTROL by CONTENT). Significant effects are also present for CONTENT and CONTROL, suggesting differential frequencies of interactions across categories, and between elicitors and emitters overall.

In order to present the findings in a context which will allow focused comparisons, coefficients of the model parameter estimates ($\lambda$'s) for significant effects are displayed in Table 19.

Interpretation of the log-linear analysis can be accomplished through the observation of patterns in the $\lambda$
Table 19

Parameter Estimates, Standard Errors and Standardized Coefficients for Hierarchical Log-linear Analysis

<table>
<thead>
<tr>
<th>PARAMETER</th>
<th>COEFFICIENT</th>
<th>STANDARD ERROR</th>
<th>STANDARDIZED COEFFICIENT†</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SOURCE by CONTROL</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ELICITOR</td>
<td>-.6059</td>
<td>.6059</td>
<td>-3.99*</td>
</tr>
<tr>
<td>EMITTER</td>
<td>.6059</td>
<td>-.6059</td>
<td></td>
</tr>
<tr>
<td><strong>CONTROL by CONTENT</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BACKGROUND</td>
<td>-.4311</td>
<td>.4311</td>
<td>-1.24</td>
</tr>
<tr>
<td>SETTING</td>
<td>-.1665</td>
<td>.1665</td>
<td>-0.67</td>
</tr>
<tr>
<td>BEHAVIOR</td>
<td>-.3596</td>
<td>.3596</td>
<td>-1.05</td>
</tr>
<tr>
<td>INDIVIDUAL CHAR.</td>
<td>.1326</td>
<td>-.1326</td>
<td>0.31</td>
</tr>
<tr>
<td>OBSERVATION</td>
<td>.9856</td>
<td>-.9856</td>
<td>1.99*</td>
</tr>
<tr>
<td>PLAN</td>
<td>.6060</td>
<td>-.6060</td>
<td>3.20*</td>
</tr>
<tr>
<td>OTHER</td>
<td>-.7671</td>
<td>.7671</td>
<td></td>
</tr>
<tr>
<td><strong>CONTENT</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BACKGROUND</td>
<td>.3816</td>
<td>.349</td>
<td>1.09</td>
</tr>
<tr>
<td>SETTING</td>
<td>.7218</td>
<td>.247</td>
<td>2.92*</td>
</tr>
<tr>
<td>BEHAVIOR</td>
<td>.7967</td>
<td>.342</td>
<td>2.33*</td>
</tr>
<tr>
<td>INDIVIDUAL CHAR.</td>
<td>-1.0494</td>
<td>.423</td>
<td>-2.48*</td>
</tr>
<tr>
<td>OBSERVATION</td>
<td>-1.4789</td>
<td>.494</td>
<td>-2.99*</td>
</tr>
<tr>
<td>PLAN</td>
<td>1.3273</td>
<td>.189</td>
<td>7.01*</td>
</tr>
<tr>
<td>OTHER</td>
<td>-0.7011</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>CONTROL</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ELICITOR</td>
<td>-.7738</td>
<td>.152</td>
<td>-5.10*</td>
</tr>
<tr>
<td>EMITTER</td>
<td>0.7738</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note.  T and C refer to teacher and committee levels respectively
b  EL AND EM refer to the two levels of control, elicitor and emitter respectively
t  Standardized coefficients are distributed approximately as a Z statistic
* p < 0.05

coefficients displayed in Table 19. Cells with positive values of λ terms have an excess of frequency relative to a model in which that term is missing (Wickens, 1989).
Negative terms indicate a relative deficiency. Results displayed in Table 19 indicate that overall there was a significant relationship between source and control. The relationship between the first level of the source factor, teacher, and the first level of the control factor is in the negative direction (note that the direction of the relationship is indicated by the sign of the obtained coefficient). Thus, elicitors tended to occur with committee members and emitters with teachers. In general, committee member's contributions were more heavily weighted toward asking questions than in providing information. It is interesting to note that the significant effect for control favors the emitter category overall. Meetings then could be characterized as being predominated by the providing of information, but that clear roles were established with teachers more likely to be providing information than seeking it, and committee members concentrating their interactions in the seeking of information.

Tabled values for the content coefficients indicate an uneven distribution of interactions across content areas, however, this must be interpreted in light of the significant association between control and content. Overall, the plan category was relatively frequently used. The negative coefficient for the plan by emitter effect would suggest that plan interactions were more likely to be
elicitors than were interactions in other categories where emitters predominated. A different pattern is evident in the background, behavior setting, and behavior categories, which were relatively frequently used but the predominant type of interaction in these categories was emitters. Over three of the most frequently used categories of background, behavior setting, and behavior, interactions were concentrated on providing information about the child's behavior and the settings in which it occurred. In the plan category, the most frequently used area of content, interactions were distributed more evenly between providing and seeking information about the intervention. Relatively little attention was paid, overall, to individual child characteristics or personality variables, and a significantly small number of interactions were exchanged regarding observation of the child's behavior, interactions related to the gathering of further information about the child or his performance during the period of the intervention. Background environment, like behavior setting and behavior was associated more frequently with the emitter category, although the background environment category was used less frequently than either behavior setting or behavior.

To summarize, the findings from the log-linear analysis indicated that emitters were used more frequently overall, and certainly were a more significant part of teacher
interactions than were elicitors. Teachers and committee members were quite consistent in the particular roles they assumed in the prereferral intervention planning meetings. Teachers were less likely to use elicitors than were members of the committee. Committee members apparently both sought and provided information, whereas, the teacher's role was one of responding to questions. Questions were relatively more frequent in the individual characteristics, observation, and plan categories than in other areas, although individual characteristics and observation received little attention overall. Comparatively little information seeking occurred in the background, behavior setting and behavior categories. Talk about the child's behavior and intervention plans predominated, and there was a noticeable absence of discussion focused on observation of the target child or procedures for gathering further information about the child's performance. The present results did not allow examination of associations between source, control and content categories to discover if teachers and committee members differed with respect to their distribution of elicitors and emitters across content areas.

Hypothesis 2: Interactions Related to Intervention Planning

It was hypothesized that teacher and committee verbal interactions during prereferral intervention planning meetings would be focused more on topic areas with direct relation to the description of the problem and its solution
than on other child characteristics, settings or unrelated topics. Percentage of total meeting interactions in the behavior setting, behavior, observation and plan topic categories were summed separately for teachers and committee members to form a value for plan related interactions for each. Interactions in the remaining categories, background environment, individual characteristics, and other were treated similarly to create a value for plan unrelated interactions. Means, standard deviation and results of t-tests for teacher and committee interactions in plan related and unrelated categories are presented in Table 20.

Table 20

Means, Standard Deviations and t-test Results for Plan Related and Unrelated Interactions

<table>
<thead>
<tr>
<th>Subjects</th>
<th>Plan Related</th>
<th></th>
<th>Plan Unrelated</th>
<th></th>
<th>t (DF)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teacher</td>
<td>34.69</td>
<td>7.97</td>
<td>11.69</td>
<td>7.88</td>
<td>9.15 (35)</td>
<td>0.000</td>
</tr>
<tr>
<td>Committee</td>
<td>37.50</td>
<td>9.80</td>
<td>13.50</td>
<td>7.04</td>
<td>8.97 (35)</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Note. n = 37 for each group.

As indicated in Table 20, teachers and committee members both used significantly more plan related than plan unrelated interactions in the observed meetings.

Hypothesis 3: Relations between Participation and Satisfaction

It was hypothesized that there would be a positive
relationship between measures of teacher active involvement in the intervention planning process and level of teacher consumer satisfaction. Correlations between MEOS-PI frequencies and component and overall satisfaction measures are presented in Table 21. A Bonferroni procedure was used to control for experiment-wise Type 1 error rate ($p < .003$). As indicated in Table 21 correlations between MEOS-PI interaction measures and satisfaction measures were nonsignificant.

The hypothesis of relation between interaction during the planning meeting and measures of consumer satisfaction was also addressed through analysis of the CAR variables. Specifically, a series of stepwise multiple regression analyses predicting satisfaction outcomes were performed. Teacher and committee plan interaction variables were used as predictors in each analysis. Stepwise analysis was used to determine if addition of information regarding level of specific interaction types improved prediction of teacher-consumer satisfaction resulting from prereferral intervention planning meetings. The results of these analyses are presented in Table 22. As indicated in Table 22, committee member seeking plan-related positive validation is the best predictor of overall satisfaction [$F(1,32) = 6.43, p < .05$], accounting alone for 15% (adjusted $R^2$) of the variance in total acceptability scores. The addition of committee positive evaluation elicitors and
Table 21

Correlations Between MEOS-PI Interaction Variables and Satisfaction Outcomes

<table>
<thead>
<tr>
<th>MEOS-PI Category</th>
<th>Overall Satisfaction</th>
<th>Procedure Satisfaction</th>
<th>Outcome Satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>TQUES teacher questions</td>
<td>.03</td>
<td>-.13</td>
<td>.13</td>
</tr>
<tr>
<td>TANSR teacher answers</td>
<td>-.03</td>
<td>-.16</td>
<td>-.20</td>
</tr>
<tr>
<td>TCOMM teacher comments</td>
<td>.07</td>
<td>.08</td>
<td>.00</td>
</tr>
<tr>
<td>CQUES committee questions</td>
<td>-.08</td>
<td>.06</td>
<td>.22</td>
</tr>
<tr>
<td>CANSR committee answers</td>
<td>-.06</td>
<td>-.18</td>
<td>-.02</td>
</tr>
<tr>
<td>CCOMM committee comments</td>
<td>-.11</td>
<td>-.02</td>
<td>-.17</td>
</tr>
<tr>
<td>TTIME Total teacher verbal interaction time</td>
<td>.03</td>
<td>.04</td>
<td>-.02</td>
</tr>
<tr>
<td>CTIME Total committee verbal interaction time</td>
<td>.03</td>
<td>.03</td>
<td>-.07</td>
</tr>
<tr>
<td>TLKVR Total verbal interaction time more than one speaker</td>
<td>.25</td>
<td>.05</td>
<td>.22</td>
</tr>
<tr>
<td>TOTIME Total verbal interaction time</td>
<td>.04</td>
<td>.03</td>
<td>-.05</td>
</tr>
<tr>
<td>TPROP Teacher proportion of total</td>
<td>.16</td>
<td>-.03</td>
<td>.24</td>
</tr>
<tr>
<td>CPROP Committee proportion of total</td>
<td>.06</td>
<td>-.21</td>
<td>.22</td>
</tr>
<tr>
<td>TACTIVE Proportion teacher questions or comments</td>
<td>.22</td>
<td>.00</td>
<td>.29</td>
</tr>
<tr>
<td>CACTIVE Proportion committee questions or comments</td>
<td>-.17</td>
<td>-.01</td>
<td>-.21</td>
</tr>
</tbody>
</table>

Note: * verbal interaction times are in seconds

b proportions were transformed with arcsin transformation for correlational analyses

n = 34
Table 22

Stepwise Regression of CAR Interaction Variables on Teacher Satisfaction

<table>
<thead>
<tr>
<th>Step Number</th>
<th>Predictor Variable</th>
<th>R</th>
<th>R²</th>
<th>Adjusted R²</th>
<th>F</th>
<th>df</th>
<th>Standard Error</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Overall Satisfaction</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>CEL67</td>
<td>.42</td>
<td>.17</td>
<td>.15</td>
<td>6.68*</td>
<td>1,32</td>
<td>6.43</td>
</tr>
<tr>
<td>2</td>
<td>CEL62</td>
<td>.55</td>
<td>.31</td>
<td>.26</td>
<td>6.82**</td>
<td>2,31</td>
<td>5.98</td>
</tr>
<tr>
<td>3</td>
<td>CEM63</td>
<td>.65</td>
<td>.42</td>
<td>.36</td>
<td>7.30**</td>
<td>3,30</td>
<td>5.55</td>
</tr>
<tr>
<td>4</td>
<td>TEL65</td>
<td>.72</td>
<td>.52</td>
<td>.45</td>
<td>7.77***</td>
<td>4,29</td>
<td>5.16</td>
</tr>
<tr>
<td>5</td>
<td>TEL67</td>
<td>.76</td>
<td>.59</td>
<td>.51</td>
<td>7.90***</td>
<td>5,28</td>
<td>4.86</td>
</tr>
</tbody>
</table>

| **Satisfaction With Process** |                   |      |     |             |      |     |                |
| 1           | CEM62             | .45  | .21 | .18         | 8.87**| 1,34| 2.85           |
| 2           | CEL63             | .55  | .31 | .26         | 7.30**| 2,33| 2.71           |
| 3           | TEL65             | .66  | .43 | .38         | 8.11**| 3,32| 2.49           |

| **Satisfaction With Outcomes** |                   |      |     |             |      |     |                |
| All variables nonsignificant |                   |      |     |             |      |     |                |

**Note.** CEL67, committee plan positive evaluation elicitor; CEL62, committee plan positive evaluation elicitor; CEM63, committee plan inference emitter; TEL65, teacher plan summarization elicitor; TEL67, teacher plan positive validation elicitor; CEM62, committee plan positive evaluation emitter; CEL63, committee plan inference elicitor.

* p < .05, ** p < .01, *** p < .001

Inference emitters increased the prediction to include 36% of the variance in overall consumer satisfaction scores. The addition of teacher plan summarization and positive validation elicitors yielded a significant five-variable model \( \text{\[}F(5,28) = 7.90, p < .001\text{\]} \), which accounts for a total of 51% of the variance in overall consumer satisfaction.
ratings of the prereferral intervention planning meetings. Using the satisfaction with process scale as the criterion, Table 22 shows that committee plan positive evaluation emitters was the best predictor of teacher ratings of the meeting process \[F(1,34) = 8.87, p < .01\]. Committee plan inference elicitors in a two variable model accounted for an additional 8% of the variance \[F(2,33) = 7.30, p < .01\]. The addition of teacher plan summarization elicitors, accounted for an additional 12% of the variance, yielding a significant three-variable model, \[F(3,32) = 8.11, p < .01\]. This model accounted for a total of 38% of the variance in teacher's ratings of satisfaction with the process dimensions of prereferral intervention meetings. Plan related interaction variables were not significant predictors of teacher ratings of satisfaction with the meeting outcomes.

In summary, teacher and committee plan-related verbal interactions accounted for substantial portions of the variance in two measures of teacher satisfaction with the prereferral intervention planning meeting, overall satisfaction and satisfaction with the process. Interestingly, plan related verbal interactions did not provide significant predictions of teacher satisfaction with meeting outcomes. It is also interesting to note that categories of committee member plan related interaction were best predictors in both models.
Hypothesis 4: Relations Between Participation and Intervention Acceptability

It was hypothesized that measures of teacher and committee active involvement in the intervention planning process would be useful predictors of intervention acceptability ratings. A stepwise multiple regression analyses predicting total intervention acceptability was performed in order to determine if information regarding specific types of interactions occurring during planning meetings improved prediction of intervention acceptability. Teacher and committee plan interaction variables were used as predictors in the analysis. The results of these analyses are presented in Table 23. As can be seen from Table 23, committee plan inference elicitors were the best predictor of total acceptability scores, accounting for 17% of the variance \( F(1,30) = 7.20, p < .05 \). The three-variable model, including teacher plan summarization emitters and committee plan positive evaluation elicitors as well as committee plan inference elicitors accounted for 47% of the variance in total acceptability ratings \( F(3,28) = 10.35, p < .001 \).

In summary, several plan related interaction variables provided significant levels of prediction for total teacher ratings of intervention acceptability (adjusted \( R^2 = .47 \)).

Hypothesis 5: Predictions of Intervention Integrity

It was hypothesized that rated characteristics of the
Table 23

Stepwise Regression of CAR Interaction Variables on Intervention Acceptability

<table>
<thead>
<tr>
<th>Step Number</th>
<th>Predictor Variable</th>
<th>Adjusted R</th>
<th>Adjusted R²</th>
<th>F</th>
<th>df</th>
<th>Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>CEL63</td>
<td>.44</td>
<td>.19</td>
<td>.17</td>
<td>7.20*</td>
<td>1,30</td>
</tr>
<tr>
<td>2</td>
<td>TEM65</td>
<td>.64</td>
<td>.40</td>
<td>.36</td>
<td>9.82**</td>
<td>2,29</td>
</tr>
<tr>
<td>3</td>
<td>CEL62</td>
<td>.73</td>
<td>.53</td>
<td>.47</td>
<td>10.35***</td>
<td>3,28</td>
</tr>
</tbody>
</table>

Total Acceptability Score

General Acceptability Scale

<table>
<thead>
<tr>
<th>Step Number</th>
<th>Predictor Variable</th>
<th>Adjusted R</th>
<th>Adjusted R²</th>
<th>F</th>
<th>df</th>
<th>Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>TEM61</td>
<td>.35</td>
<td>.12</td>
<td>.10</td>
<td>4.66*</td>
<td>1,33</td>
</tr>
</tbody>
</table>

Risk To Child Scale

<table>
<thead>
<tr>
<th>Step Number</th>
<th>Predictor Variable</th>
<th>Adjusted R</th>
<th>Adjusted R²</th>
<th>F</th>
<th>df</th>
<th>Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>TEM61</td>
<td>.24</td>
<td>.23</td>
<td>.21</td>
<td>10.47**</td>
<td>1,34</td>
</tr>
<tr>
<td>2</td>
<td>CEL63</td>
<td>.57</td>
<td>.33</td>
<td>.29</td>
<td>8.07**</td>
<td>2,33</td>
</tr>
<tr>
<td>3</td>
<td>TEM65</td>
<td>.65</td>
<td>.42</td>
<td>.37</td>
<td>7.82***</td>
<td>3,32</td>
</tr>
<tr>
<td>4</td>
<td>TEM61(removed)</td>
<td>.62</td>
<td>.38</td>
<td>.34</td>
<td>10.08***</td>
<td>2,33</td>
</tr>
</tbody>
</table>

Skill Required Scale

<table>
<thead>
<tr>
<th>Step Number</th>
<th>Predictor Variable</th>
<th>Adjusted R</th>
<th>Adjusted R²</th>
<th>F</th>
<th>df</th>
<th>Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>TEL67</td>
<td>.41</td>
<td>.17</td>
<td>.14</td>
<td>6.55*</td>
<td>1,33</td>
</tr>
<tr>
<td>2</td>
<td>CEL63</td>
<td>.55</td>
<td>.30</td>
<td>.26</td>
<td>6.95**</td>
<td>2,32</td>
</tr>
</tbody>
</table>

Time Required Scale

All Variables Nonsignificant

Effect On Others Scale

<table>
<thead>
<tr>
<th>Step Number</th>
<th>Predictor Variable</th>
<th>Adjusted R</th>
<th>Adjusted R²</th>
<th>F</th>
<th>df</th>
<th>Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>CEL63</td>
<td>.36</td>
<td>.13</td>
<td>.10</td>
<td>4.95*</td>
<td>1,33</td>
</tr>
</tbody>
</table>

Note. * CEL63, committee plan inference elicitor; TEM65, teacher plan summarization emitter; CEL62, committee plan positive evaluation elicitor; TEM61, teacher plan negative evaluation emitter; TEM65, teacher plan summarization emitter; TEL67, teacher plan positive validation emitter.
* p < .05, ** p < .01, *** p < .001

prereferral intervention meeting process and the rated severity of the child’s problem would provide information
related to the prediction of degree of intervention integrity, the degree to which it is implemented in the classroom. A series of stepwise multiple regression analyses predicting integrity ratings were performed. Predictor variables in these analyses included the degree to which the child's problem is well specified, the degree of severity of the described problem, the extent to which the intervention is well specified, rated ease of use of the intervention, and rated intervention strength or effectiveness for the described problem. Separate analyses were undertaken for each of the criterion measures of intervention integrity and for the composite integrity measure. Results of these analyses are presented in Table 24. As indicated in Table 24 degree of plan specification was the only significant predictor of integrity of intervention implementation \( F(1,34) = 4.79, p < .05 \), accounting for 10% of the variance in integrity of intervention implementation. Using classroom observation 2 as the criterion, Table 24 shows that degree of problem specification made a significant contribution to the prediction of intervention implementation, \( F(1,29) = 5.33, p < .05 \), and accounted for 13% of the variance in intervention integrity. Rated characteristics of the intervention plan and child severity ratings did not make significant contributions to the prediction if intervention integrity using as criterion variables the follow-up
Table 24

**Stepwise Regression of Plan Ratings and Child Problem Severity on Intervention Integrity**

<table>
<thead>
<tr>
<th>Step Number</th>
<th>Predictor Variable</th>
<th>R</th>
<th>$R^2$</th>
<th>Adjusted $R^2$</th>
<th>F</th>
<th>df</th>
<th>Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>PRO8</td>
<td>.35</td>
<td>.12</td>
<td>.10</td>
<td>4.79*</td>
<td>1,34</td>
<td>.47</td>
</tr>
<tr>
<td>1</td>
<td>PRO2</td>
<td>.39</td>
<td>.16</td>
<td>.13</td>
<td>5.33*</td>
<td>1,29</td>
<td>.45</td>
</tr>
</tbody>
</table>

*Classroom Observation 1*

*Classroom Observation 2*

*Follow-Up Interview Rating*

All variables nonsignificant

*Teacher Integrity Rating*

All variables nonsignificant

*Integrity Composite*

All variables nonsignificant

**Note.** *p < .05*

PRO8 = specificity of intervention plan

PRO2 = specificity of problem description

In summary, for two of the five criterion measures, significant predictive models were formed, each with a single predictor, accounting for 10% to 13% of the variance in integrity of intervention implementation.

**Hypothesis 6: Acceptability and Satisfaction Predictions of Integrity of Intervention Implementation**

It was hypothesized that teacher rated intervention
acceptability and consumer satisfaction with the intervention planning meeting would provide information related to the prediction of the integrity with which interventions were implemented in classrooms. Separate stepwise multiple regression analyses were performed for each integrity criterion measure, using acceptability and satisfaction scale scores as predictors. Results of these analyses indicated only one significant predictor of intervention integrity. Using the teacher rating of intervention integrity as criterion, the time scale of the IRP acceptability measure provided a significant one-variable prediction model \( F(1,46) = 7.55, p < .01 \), accounting for approximately 12% of the variance in teacher ratings of intervention integrity.

Hypothesis 7: Integrity and Child Behavior Change

It was hypothesized that a significant positive relationship would be found between measures of integrity of intervention implementation and teacher rated child behavior change. Table 25 presents correlations between measures of child behavior change and integrity ratings. A Bonferroni procedure was used to control for familywise error rate \( p < .01 \). Starred correlations are significant at the .05 level. Because sample sizes varied across comparisons, \( n \) sizes are reported in parentheses underneath respective correlations.

As presented in Table 25, correlations between
integrity and child change measures vary from low to moderate; none are significant. The correlation between the two measures of child change was moderate and significant.

Table 25

**Correlations Between Measures of Intervention Integrity and Child Behavior Change**

<table>
<thead>
<tr>
<th></th>
<th>FOLLOW4</th>
<th>TIFF2</th>
<th>TIFF1</th>
<th>FOLLOW1</th>
<th>OIIRS1</th>
<th>OIIRS2A</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOLLOW4</td>
<td>0.36*</td>
<td>-0.02</td>
<td>0.16</td>
<td>0.07</td>
<td>0.34</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(48)</td>
<td>(48)</td>
<td>(49)</td>
<td>(45)</td>
<td>(35)</td>
<td></td>
</tr>
<tr>
<td>TIFF2</td>
<td>-0.06</td>
<td>-0.03</td>
<td>0.16</td>
<td>0.14</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(50)</td>
<td>(48)</td>
<td>(46)</td>
<td>(35)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* p < .05

**Hypothesis 8: Process and Outcome Differences Between Referred and Non-Referred**

As part of this study, it was originally proposed to group cases into two classifications as follows: (a) children referred for formal evaluation; and (b) children thought to benefit from continued placement in regular education classroom. Grouping was to be carried out based on the review decision of the prereferral team. Using this classification, additional analyses were to be performed. Specifically, using group membership as the criterion variable, acceptability, satisfaction, measures of team process, and intervention integrity were to be entered as the predictor variables into a discriminant function analysis. These analyses were not possible because too few
students could be classified as to group membership with available follow-up data.
Discussion

The purpose of this study was to obtain information on the processes, activities, and experiences of the prereferral intervention process in order to begin to look at how characteristics the planning process might influence the teacher's experience, characteristics of the interventions developed, how interventions are implemented, and what effect interventions have on child behavior. The study attempted to obtain a better understanding of the intervention planning processes engaged in by prereferral intervention teams, primarily, through a focus on the verbal processes of teacher and committee team member interactions. Two important outcomes of the intervention planning process formed a second focus for the investigation: teacher perceptions of their experience in the planning process and of characteristics of the intervention, and the classroom implementation of prereferral interventions.

Prereferral Meeting Participation

Teacher and committee participation in the prereferral intervention planning process was operationalized in several ways in the present study. The MEOS-PI yielded information on the frequency of teacher and committee verbal interactions, in terms of numbers of questions, responses, and initiated comments made by each, as well as providing an index of teacher and committee speaking time. Results of analysis of these data revealed that teachers asked few
questions and initiated relatively few comments in comparison with their committee colleagues. Teachers also had a smaller proportion of the total meeting interaction time in comparison with the collective contribution of their committee counterparts. These results may seem surprising to those philosophically committed to descriptions of the intervention planning process in consultation as one of equal participation, and as providing teachers the opportunity to seek information from colleagues in order to solve an issue of importance to them (e.g., Bergan, 1977; Conoley & Conoley, 1982; Idol, Paolucci-Whitcomb, & Nevin, 1986; West & Brown, 1987). Reinking, Livesay, and Kohl (1978) identified collaborativeness as an important skill in consultation, however their description of collaborativeness included showing respect for, listening to, and giving credit to teacher consultees while using reinforcement and verbal manipulation techniques to control consultee behavior. In Bergan’s behavioral consultation model, which underlies the prereferral intervention model described by Graden, Casey, and Christenson (1985), consultant training focuses on the acquisition of verbal control techniques to ensure a "problem focus to consultation sessions. These results are also consistent with recent findings in investigations of verbal processes in dyadic consultation with teachers (e.g., Erchul & Chewning, 1989; Witt, Erchul, McKee, Pardue, & Wickstrom, in press). Collaborativeness as
defined in this literature refers to the coequal control of verbal interactions in consultation. Witt et al. found, for example, that teachers gave high satisfaction ratings to consultations in which they had little control of the agenda. Prereferral intervention team members and teachers in the present study appeared to have quite distinct roles in terms of the verbal interaction processes they engage in. Committee members engage in high rates of questioning of teachers and provide many unsolicited comments, while teacher interaction is more restricted, and might be best described as a passive provider and recipients of information rather than an active participant in the process.

Analysis of the content and process data from the consultation analysis record paralleled the unequal distribution of teacher and committee information seeking and information giving behaviors revealed in the MEOS-PI data. However, the CAR data allowed further investigation of the content of the interactions. Consistent with expectations, the majority of interactions were focused on description of the child’s behavior, the setting s in which that behavior occurred and on elements of the intervention plan. Although there were few questions raised in these meetings regarding the child’s personality characteristics or elements of his life outside of the classroom, comments about the child’s background environment did figure
prominently in the meetings. Overall, meeting interactions focused on intervention relevant topics, rather than topics hypothesized to be irrelevant to the implementation of intervention plans (Gutkin & Curtis, 1982).

Although interactions about the child's behavior and elements of the intervention plan were the most frequently occurring topics of discussion, the inattention to discussion of procedures for observing changes in the child during the period of intervention was surprising. In the context of the mandate for use of prereferral intervention as a means to objectively assess the success of regular classroom interventions, lack of attention to establishing some means with which to gauge the effects of intervention is particularly perplexing.

Process and Outcome Relationships

The results of correlational analysis involving indices of active teacher involvement in the prereferral intervention planning meeting and measures of satisfaction with the process and outcomes indicated little relationship between teacher satisfaction and active involvement in the planning process as operationalized in the present study. Apparently, global measures of involvement provide little evidence of the extent to which teachers see the process and the outcomes of prereferral planning meetings as satisfactory.

However, more specific descriptions of teacher and
committee verbal interaction during meetings did provide substantial information relevant to the perceptions teachers have of both the prereferral intervention meeting process and overall meeting results. Teacher perceptions of intervention acceptability and teacher consumer satisfaction can be understood in the context of the kind of attention committee and teachers give to specific topic areas. For example, increased use of specific content and process dimensions by consultants and teachers were predictive of teachers perception of the value of the intervention planning process and the validity of the interventions developed there. Results of analysis of the intervention integrity measures for this sample provided some evidence that most teachers implemented the interventions developed in the prereferral intervention planning meetings. Additional, limited evidence was provided that some of the variation in intervention integrity might be explained in terms of the degree to which the problem and intervention plan are well specified in the intervention planning meeting. Interestingly, low to moderate levels of correlation were observed between measures of intervention integrity and child behavior change, providing tentative evidence of the importance of attention to issues of intervention integrity in the design and evaluation of intervention plans. As suggested by Gresham (1989), the integration of integrity monitoring procedures in the design
of prereferral interventions may have both evaluative and therapeutic implications.

A major goal of the study of prereferral intervention is to build a body of research which will facilitate the identification and use of effective and acceptable regular classroom interventions. Witt and Elliott (1985) have suggested that the dimensions of treatment acceptability (and satisfaction), intervention integrity, effectiveness and use are reciprocally and sequentially interrelated (cf. Yeaton & Sechrest, 1981). The ultimate test of an intervention is in its use. The results of the present study are only suggestive of support for this link, providing an obvious area for further investigation of the interrelatedness of these constructs. Important to such research efforts will be the careful operationalization of intervention integrity and measures of intervention effectiveness. Ideally, repeated direct measurements of intervention implementation and direct measures of child behavior change would strengthen the confidence in results of investigations of the link between these variables.

Several limitations of the present study encourage caution in the interpretation of findings. First, several of the analyses are subject to overspecification due to limited sample sizes. In particular the results of the multiple regression analyses must be considered tentative and in need of verification with additional sample data. A
second caution is related to the nature of the sample for this study. The sample was selected from schools in one state, and during the latter part of the school year and so may not be representative of prereferral intervention models in place in other jurisdictions, or at different times in the school year. An additional caution in interpretation of results of the study has to do with the exploratory nature of the measurement procedures and instruments developed for the study. In light of the low and null findings in support of hypothesized acceptability, satisfaction, integrity, and child behavior change interrelationships, the need for replication and verification of findings is of utmost importance. Although the findings are interesting and have potential importance for understanding the prereferral intervention process, these results must be accepted only tentatively in light of the limitations of the current study.
References


Hargreaves, W. A., Showstack, J., Flohr, R., Brady, C., & Harris, S. (1974). Treatment acceptance following intake assignment to individual therapy, group therapy, or contact group. *Archives of General Psychiatry, 31*, 343-349.


*Multivariate ecological observation system* [computer program]. Syracuse, NY: Syracuse University.


Appendix A

Consultation Analysis Record

Coding Categories and Coding Sheet
Consultation Analysis Record Coding Categories

A summary of an adaptation of the Consultation Analysis System and the CAR (Bergan & Kratochwill, 1990) used in the study procedures is presented below. Detailed descriptions, extended examples, and theoretical rationales are available in the original source.

Message Source

The source category indicates the person speaking in the clause being analyzed. Generally there are two roles to be coded in consultation interviews: consultee and consultant. In this application the consultee source refers to the teacher who has responsibility for classroom instruction of the child for whom prereferral intervention is being sought. The consultee source refers to any other member of the prereferral intervention planning team.

Message Content

There are seven content categories used to classify topics of teacher-committee interchange in prereferral intervention planning meetings. Category descriptions and sample verbalizations for each category are presented below.

Background Environment. Verbalizations in this category include "remote" environmental conditions related to the child’s behavior. Remoteness may be in terms of time or locality or both. Discussion of current home conditions, early development, or events which occurred earlier in the child’s life would be coded in the background environment.
category. Examples of background environment statements include the following: "What is his home situation like?", "Does she have any brothers and sisters?", "How did he do in first grade?", "I really don't like the way his mother speaks to him about how he is doing at school.", "Do you think he has ever been to see a doctor?", and "You said before that he really had a difficult birth, didn't you?"

Behavior Setting. This category includes verbalizations referring to antecedent, consequent, and sequential conditions contiguous with the child’s behavior in the school setting. Antecedent conditions refer to events which occur before the child’s behavior. Consequent conditions refer to conditions which occur immediately after the child’s behavior and which may be contingent on the occurrence of the behavior. Sequential conditions refer to statements which identify the timing of occurrence of the behavior and its temporal relationship with other events such as planned reinforcement schedules. Examples of background environment statements include: "What happens when he makes those noises in class?", "What do the kids have to do to pass the first level of the program?", "How do you usually teach that?", "I talked to him right away, as soon as he did it.", "He comes late every Monday, and never shows up for Friday afternoon classes.", "Everyone seemed on edge when he started to act up.", and "Do you think the other boy said something to set him off?"
Behavior. The behavior category refers to the child's actions, what the child does. This includes both overt (e.g., moving, speaking) and covert (e.g., thinking) activities. Also included are verbalizations related to activities and assignments performed by the child, magnitude of the behavior, records of the behavior, and behavioral goals. Examples of the behavior category include: "How does she act when she is upset?", "Give me an example of the kind of mistakes he makes in the multiplication problems.", "He just stood there and laughed.", "He is aware that he just sort of blanks out and then just shakes his head a little bit.", "She reads the stories aloud fluently", "She just sits there looking out into space instead of doing her silent reading.", "What skills do you expect him to have mastered this year?", and "What did he say to you then?"

Individual Characteristics. Verbalizations in this category include personal attributes such as, personality traits or states, intellectual characteristics, aptitudes and abilities, physical characteristics and neurological functioning. These verbalizations refer to conditions or states of the individual rather than to actions of the individual. Examples of individual characteristics verbalizations include: "He really is a brat, don't you think?", "She turns twelve this May.", "I think he is hyperactive.", and "She is ready to accept her own limitations now."
Observation. The observation subcategory refers to interactions about observation and recording of child behavior or means of gathering data on the child’s progress during the period of the intervention. Examples of observation interactions include the following: "Could you keep track of how many days each week he makes it to class on time?", "I could just make a mark on the calendar when he makes it through to recess without an incident.", "Do you think you can make a record of the assignments and his grades on each one?", "Can I get you to watch him for 15 minutes each recess and keep track of the number of times he does any of those behaviors we defined?", and "We need to make a record of exactly how many problems he tries during the class period."

Plan. The plan subcategory includes verbalizations about the intervention and may include references to broad strategies or specific tactics of the planned intervention, intervention procedures, curriculum materials, or behavior management techniques. Plan related verbalizations include statements about procedures intended to change, maintain, and generalize child behaviors to other settings. Examples of plan verbalizations include: "What changes could you make in the math assignment that would ensure that he would finish during class time?", "I wonder if a daily note home on his progress might help?", "I will review this with him at the beginning of each class.", "I wouldn’t want to do it
like that", "...but I would get one of the other kids to help him when he gets stuck.", "So you want me to just ignore him when he starts to make his funny noises?", "Should we move him back to the Moonbeams reader on Monday?", "Try to encourage more independent work generally.", and "Some teachers find that this kind of approach takes too much of their time."

Other. The other category is the default category for verbalizations that do not fit in any of the other six content categories. Examples of the other category include: "Do they know who pulled the fire alarm?", "When did we last get together?", "This room seems very hot today.", "Does anyone have any of the pink forms with them?", "I can't even remember what the kid looks like.", and "You are always so negative about him."

Message Process

The message process category classifies verbalizations in terms of the kind of speaker actions they describe with regard to the content of the conversation. There are five subcategories in the process dimension including evaluation, inference, specification, summarization, and validation. The evaluation and validation subcategories are coded for either positive or negative valence yielding seven process categories.

Evaluation. Statements which convey or call for an attitudinal or affective reaction or which represent a value
judgement are coded under the evaluation process subcategory. Statements are further coded as conveying positive or negative valence. Statements which call for an evaluation are coded as positive because of the frequent ambiguity regarding the valence of statements which seek an evaluation. Statements which express an evaluative judgment are coded in accordance with the intended attitude or feeling expressed. Examples of evaluation statements include: "I really like that idea.", "I don't like having to do this intervention every day.", "Are you feeling okay about making these changes in your daily routine?", and "His behavior this week is very disappointing to me."

Inference. The inference subcategory includes statements which provide or call for judgements, or provide predictions as opposed to statements of fact and usually contain verbs such as think, feel, or assume that suggest judgement. Examples of inference statements include: "I think she is really just a frustrated little kid inside.", "Why do you think she is so different from the other first graders?", "What might happen if you gave her more attention when she is being good?", and "This plan is really going to take off."

Summarization. Statements which provide or call for review of information presented earlier are coded as summarization statements. Examples of the summarization subcategory include: "What was that you said about his
brother going to the mall every evening?", "We agreed earlier to focus on the behaviors first then move on to setting up a plan.", "So we have established that his problem really centers around the fights over recess time.", "Tell me again what are the most difficult times of the day for him.", and "Would you just review the steps with me one more time before you go?"

Validation. Validation statements call for or provide agreement or disagreement. Validation statements are coded for positive and negative valence depending on whether they are providing or calling for agreement (positive validation), or disagreement (negative validation). Validation questions can always be responded to with a yes or no in reply. Statements which seek validation are always coded as positive to avoid ambiguity. Polite requests such as "Will you tell me more about his math skills?", are not coded as validations even though they could be responded to with a yes or no. When the utterance provides sufficient information to code valence, such as "Isn’t that right?" the utterance is coded in terms of the preceding statement. Examples of validation statements include: "Do you mean that he doesn’t understand any of the directions?", "Do he only do this on Monday’s", "Does she stand there waiting for you to come?", and "Yes, I agree."

Message Control

The message control dimension of message classification
indicates the likelihood of the statement having a direct effect on the listeners behavior. Statements that are presumed to have an influence on the listeners behavior are coded as elicitors. Statements presumed not to have such an effect are coded as emitters.

**Elicitor.** An elicitor is a statement which calls for a response in a particular combination of content and process subcategories. Elicitors can be direct, imperative statement or indirect statements or questions in which the intended action of the listener is clear. Examples of elicitors include: "Could you give me some more background on Jane?", "I really need more information about his classroom behavior", "Do you think that will work?", and "Let's work on putting together an intervention."

**Emitter.** Emitters provide content and process information without requiring a specific response from the listener. "I think that plan is going to work.", "She is ten now.", "We are doing the first unit on globe skills this next week.", and "Her parents left her alone at home while they went shopping."
Adapted from Bergan and Kratochwill (1990).
Project Title:
School Prereferral Intervention

Project Researcher:
William T. McKee, under the supervision of Dr. Joseph C. Witt, Director of the School Psychology Program, Department of Psychology, Louisiana State University.

Purpose and Procedures:
Teachers who participate in this project will be providing valuable information about the processes and outcomes of prereferral interventions undertaken to meet the needs of children who are experiencing difficulty in the regular classroom. This information is important for future training and development of services to better meet the needs of all children in our schools.

A researcher will be present and make an audio tape recording of the initial School Building Level Committee meeting at which a referred case is presented. Following the meeting, the referring teachers will complete two short paper and pencil questionnaires to obtain their reactions to certain aspects of the referral process. The two measures can be completed in 20 minutes. Prior to the second School Building Level Committee meeting, a researcher (or a pair of researchers) will observe the referred child on two occasions in the regular classroom. A researcher will be present at the second School Building Level Committee meeting. Following the second meeting, teachers will be asked to respond to a 10 minute interview and complete one additional paper and pencil measure requiring approximately 5 minutes.

Teachers will be asked to provide some minimal personal data (e.g., sex, age, years teaching experience) as part of the consent session. In order to maintain complete individual confidentiality, and to encourage candid responses, the data, information, and opinions presented by all subjects will be coded and the identity of individuals participating will remain confidential throughout the study.

The researcher and supervisor will be available throughout the study to answer any inquiries concerning the procedure and to ensure they are fully understood. Following completion of the study the researcher will be available for discussion and will provide any requested details regarding study procedures.

Compensation:
In order to provide token compensation for the time required to complete study procedures, participants will receive $5.00 following the final interview.
CONSENT FORM

School Prereferral Intervention
Participation in this project will require you to provide some personal descriptive information, complete paper and pencil measures, permit classroom observations, and contribute to a final personal interview. A researcher will be present and make an audio tape recording of the School Building Level Committee meetings at which your referred case is discussed. In order to provide token compensation for the time required to complete the study procedures, you will receive $5.00 following your participation in the final interview. Your consent is required in order that these data may be used for research purposes.

All information gathered as part of this study will be coded and the identity of participants will remain strictly confidential.

It is the right of any subject to refuse to participate or to withdraw from the project at any time. Such a decision will neither jeopardize nor influence you in any way. Please indicate your willingness to participate by providing your consent below.

***************************************************************************************************************

You are making a decision whether or not to grant permission for the use of recorded interviews, classroom observations, and questionnaire responses for research purposes. Your signature below indicates that you have read the information and have decided to participate.

________________________________________________________
Name

________________________________________________________
Signature Date
SELC INTERVENTION STUDY - TEACHER INSTRUCTIONS

Teachers,

Following the SELC meeting please complete the enclosed:

- Teacher Information Form
- Observation Schedule
- Consumer Satisfaction Questionnaire
- Intervention Rating

Please complete the packet on the day of the meeting (this takes 8 - 10 minutes), return all materials to the envelope, and leave for me to pick up at your school office. I will collect completed envelopes after school on the day of the meeting, or the following morning.

In preparation for the classroom observations please note the following:

a) be as specific as possible in completing the observation schedule, this will allow us to plan our observation times efficiently;

b) there is no need to introduce the observers to the class, the observations should be anonymous and cause as little disruption as possible in your classroom routine;

c) please arrange some means to indicate to the observer the identity of the target child without letting the child know who is being observed.

If you have any questions about the study procedures, please contact me at one of the following numbers:

(504) 388-8745 (Psychology department office, leave a message 8am - 4pm)

(504) 344-2571 (Home, please leave a message on my machine - leave a number and time I can call you)

Thank you once again for your cooperation.

Bill McKee
Directions. Please provide the following information about yourself. Your responses will be coded and used to summarize participant characteristics. This information, as well as all other data you provide during the research project, will be treated as confidential.

Age: _________ Subject number: ________

Sex: Male ____ Female ____

Years of college: ______

Highest degree earned: ____________________________________________

Type of teacher certification: _______________________________________

Number of years employed as a teacher: _____________________________

Number of years employed in this school: ___________________________

Grade levels you usually teach: _________________________________

Have you referred any other children to the SBLC this year? 
If yes, how many?

____________________________________________________________________

Have you requested consultation for any children this year? 
If yes, for how many?

____________________________________________________________________

Are there children in your class this year for whom you have had to make substantial modifications in your classroom program to accommodate their needs? If yes, how many children?
Teacher ________________________________

Classroom number ___________ Subject number ______

CLASSROOM OBSERVATION SCHEDULE

List below the days and times we can observe the child involved in interventions which were developed at SBLC. If more than one intervention is planned indicate the best observation times for each area of intervention (e.g., Reading M-F 10:00-10:45; Handwriting M, T, & Th 8:00-8:20). Please be as specific as possible to allow us efficient scheduling of observation times.

Intervention area ______________________________________
Observation times ______________________________________

Intervention area ______________________________________
Observation times ______________________________________

Intervention area ______________________________________
Observation times ______________________________________

Intervention area ______________________________________
Observation times ______________________________________

PHONE CONTACT INFORMATION

Please list below a time and number at which we can contact you to schedule the follow-up interview. We will arrange for this after the committee has made a final decision on this case.

Phone number(s) ______________________________________

Best time(s) to contact you ____________________________
The purpose of this questionnaire is to obtain information about your reaction to the classroom intervention(s) developed at the SBLC meeting. Circle the number which best describes your agreement or disagreement with each of the following statements about the specific intervention(s) developed for implementation in your classroom. Complete all questions, even if you must guess.

1. I liked the procedures used in this intervention.
   Strongly Disagree Slightly Slightly Agree Strongly Agree
   Disagree Disagree Agree Agree
   1  2  3  4  5  6

2. Teachers are likely to use this intervention because it requires little technical skill.
   Strongly Disagree Slightly Slightly Agree Strongly Agree
   Disagree Disagree Agree Agree
   1  2  3  4  5  6

3. This intervention would be disruptive to other students.
   Strongly Disagree Slightly Slightly Agree Strongly Agree
   Disagree Disagree Agree Agree
   1  2  3  4  5  6

4. This intervention is not practical in the amount of time required to monitor the problem behavior.
   Strongly Disagree Slightly Slightly Agree Strongly Agree
   Disagree Disagree Agree Agree
   1  2  3  4  5  6

5. Use of this intervention would not be harmful to the child.
   Strongly Disagree Slightly Slightly Agree Strongly Agree
   Disagree Disagree Agree Agree
   1  2  3  4  5  6
6. This intervention would be difficult to implement in a classroom with 30 other students.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
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<th>Agree</th>
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7. This intervention would result in negative side effects for the child.

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<th>Strongly Disagree</th>
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<th>Slightly Agree</th>
<th>Agree</th>
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8. This intervention is practical in the amount of out-of-school time required for implementation.

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<tr>
<th>Strongly Disagree</th>
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9. Teachers are likely to use this intervention because it requires little specialized knowledge to be used successfully.

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<th>Strongly Disagree</th>
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<th>Agree</th>
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10. This intervention was **not** a good way to handle the child's problem behavior.

    | Strongly Disagree | Slightly Disagree | Slightly Agree | Agree | Strongly Agree |
    |-------------------|------------------|---------------|-------|---------------|
    | 1                 | 2                | 3             | 4     | 5             | 6     |

11. This intervention would be threatening to the child.

    | Strongly Disagree | Slightly Disagree | Slightly Agree | Agree | Strongly Agree |
    |-------------------|------------------|---------------|-------|---------------|
    | 1                 | 2                | 3             | 4     | 5             | 6     |
12. Teachers are not likely to use this intervention because it requires training to implement effectively.

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<th>Strongly Disagree</th>
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13. This intervention is practical in the amount of time required for record keeping.

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14. Use of this intervention would not have negative effects on other children in the classroom.

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15. Overall, this intervention would be beneficial for the child.

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TEACHER CONSUMER SATISFACTION QUESTIONNAIRE

Date: _____________________ Case number: ________
Meeting number: _________

Directions
Please read the following questions and answer each carefully by selecting the option which best represents your personal reaction. Responses to this questionnaire are confidential and not available to anyone. All questions are to be answered in relation to your most recent referral meeting with the School Building Level Committee.

1. The School Building Level Committee was helpful in planning classroom intervention(s) for this child.

1 2 3 4 5
strongly disagree neutral agree strongly disagree agree

2. I had adequate time and opportunity to contribute during the meeting.

1 2 3 4 5
strongly disagree neutral agree strongly disagree agree

3. The goals set for this child cannot be accomplished in the time established.

1 2 3 4 5
strongly disagree neutral agree strongly disagree agree

4. As a result of the meeting I have a better understanding of this child.

1 2 3 4 5
strongly disagree neutral agree strongly disagree agree

5. The members of the School Building Level Committee treated my contributions to the meeting as valuable and important.

1 2 3 4 5
strongly disagree neutral agree strongly disagree agree
6. The intervention plans developed at the meeting are much better than those I had developed on my own.

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7. This child’s problems are too severe to be handled in the regular classroom.

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8. The members of the School Building Level Committee made worthwhile contributions to the meeting.

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9. I feel the members of the School Building Level Committee blamed me for some of the child’s problems.

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10. I had many questions concerning the child, the proposed intervention(s), and the next steps in the process which were not answered at the committee meeting.

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11. The members of the committee helped develop interventions which can be implemented with available time, materials and resources.

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12. If evaluated, this child will probably qualify for placement in special education.

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13. My responsibilities for implementation of planned classroom interventions are definite and clear.

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14. As a result of the meeting, I have become better at solving classroom problems.

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15. The meeting was a valuable use of my time.

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16. Interventions undertaken in the regular classroom will not be sufficient to deal with this child’s problems.

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17. Overall, I am very satisfied with the intervention planning process.

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18. The intervention plans developed at the meeting are too time consuming to be used in my classroom.

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</table>
19. The committee members made an effort to see the child's problems the same way I do.

1 strongly disagree 2 neutral 3 agree 4 strongly disagree

20. Intervention results will provide a realistic picture of this child's instructional needs.

1 strongly disagree 2 neutral 3 agree 4 strongly disagree

21. This child's problems are more difficult to manage than those of any other child in my class.

1 strongly disagree 2 neutral 3 agree 4 strongly disagree

22. The interventions developed or suggested at the School Building Level Committee meeting help address the problem which initiated my referral.

1 strongly disagree 2 neutral 3 agree 4 strongly disagree
PROCESS AND OUTCOME RATING FORM

Date: ______________________ Case number: ________

Meeting number: _______ Observer: _______________

Directions - Immediately following your review of the meeting tape complete the ratings below. You should familiarize yourself with the content of the items prior to playing the tape.

Teacher Participation in Problem Definition

Indicate the degree to which the teacher was an active participant in defining the child's problems.

1 2 3  4 5  
uninvolved minimally moderately very dominant
involved involved involved involved

Teacher Participation in Intervention Planning

Indicate the degree to which the teacher was an active participant in planning the intervention(s) for this child.

1 2 3  4 5  
uninvolved minimally moderately very dominant
involved involved involved involved

Group Collaboration in Problem Solving

Indicate the extent to which the meeting participants engaged in a collaborative process characterized by reciprocity of roles, sharing of responsibility, and maintenance of a problem-solving focus.

1 2 3  4 5  
not at all not very somewhat very completely
much much
Referral Problem

Identification. Was a problem identified?

1  yes  2  no

Specification. Indicate the degree to which the meeting participants specify the nature, extent and context of the referral problem.

1 not specified at all  2 minimally specified  3 moderately well specified  4 very well specified  5 completely specified

Problem severity. Indicate the degree of severity of the problem(s) described by the teacher.

1 not at all severe  2 not very severe  3 moderately severe  4 very severe  5 extremely severe

Intervention

Plan identification. Was an intervention plan identified?

1 yes  2 no

Intervention goals. Were goals, expected levels of performance, or criteria for success established?

1 yes  2 no

Specification. Indicate the degree to which the meeting participants specify and clarify important elements of the intervention plan and procedures for its implementation, including such issues as materials, resources, time, agents, and locations where intervention will occur.

1 not specified at all  2 minimally specified  3 moderately well specified  4 very well specified  5 completely specified
Ease of use. Indicate how difficult it would be to implement the intervention(s) described in the meeting, including considerations of teacher time involvement, intervention complexity, and required materials and resources.

1 2 3 4 5
not at all not very moderately very extremely
difficult  difficult  difficult  difficult  difficult

Plan effectiveness. Indicate the degree to which the planned intervention is likely to be effective with the referred problem, including consideration of both planned strength and appropriateness of the intervention for the problem. In making your rating assume the intervention is implemented faithfully.

1 2 3 4 5
not at all not very moderately very extremely
effective  effective  effective  effective  effective
OBSERVED INTERVENTION IMPLEMENTATION RATING SCALE

Date: _____________________  Case number: ____________
Observation number: _______  Observer: _______________

Directions to observers. Immediately following your observation in the classroom complete the following scale to rate the degree to which the intervention has been implemented as described on your Intervention Observation Protocol.

1 - no evidence of implementation, (e.g., none of the planned elements of intervention present, child engaged in same program as other non-targeted children when special program described, required curriculum materials not present or being used, planned contingencies not being applied).

2 - partial or adapted implementation, (e.g., some important elements of the planned intervention present but some important elements missing, contingencies used but not on planned schedule, teaching procedure as planned but with different materials than planned).

3 - very minor modifications in the plan (e.g., small change in procedure with no important elements missing, teacher uses Star Chart instead of token, but delivered on same schedule).

4 - evidence of complete adoption of planned intervention (e.g., all important elements of planned intervention present).

Describe any major differences between the intervention as presented in the Intervention Observation Protocol and the procedure you observed in the classroom. Include your observation notes with this rating form.

Note here any special circumstances or incidents which may have interfered with the validity of this observation session.
OBSERVED INTERVENTION IMPLEMENTATION RATING SCALE
SECOND OBSERVATION

Date: _______________   Case number: ________
Observer: ____________

Directions to observers. Immediately following your observation in the classroom, complete the following scale to rate the degree to which the intervention has been implemented as described on your Intervention Observation Protocol.

1 - no evidence of implementation, (e.g., none of the planned elements of intervention present, child engaged in same program as other non-targeted children when special program described, required curriculum materials not present or being used, planned contingencies not being applied).

2 - partial or adapted implementation, (e.g., some important elements of the planned intervention present but some important elements missing, contingencies used but not on planned schedule, teaching procedure as planned but with different materials than planned).

3 - very minor modifications in the plan (e.g., small change in procedure with no important elements missing, teacher uses Star Chart instead of token, but delivered on same schedule).

4 - evidence of complete adoption of planned intervention (e.g., all important elements of planned intervention present).

Describe any major differences between the intervention as presented in the Intervention Observation Protocol and the procedure you observed in the classroom. Include your observation notes with this rating form.

Rate the degree to which the intervention plan observed today is similar to the intervention plan observed in your first observation session with this case.

1  2  3  4  5
not at all not very somewhat very much completely similar similar similar similar similar

Note here any special circumstances or incidents which may have interfered with the validity of this observation session.
TEACHER INTERVENTION FOLLOW-UP FORM

Date: ________________  Case number: _________

Directions. The following questions relate to your recent experience with the planning and implementation of interventions developed at your School Building Level Committee meeting. Please respond completely and candidly. Your responses to these questions are important to our understanding of the process of planning and implementing classroom interventions.

1. Circle the number of the statement which best describes your answer to the following question:

   To what extent did you implement the interventions planned at the School Building Level Committee meeting?

   1 - I implemented the intervention(s) exactly as planned at the SBLC meeting or made only minor modifications, and maintained the intervention(s) the whole time.

   2 - I implemented the intervention(s) exactly as planned at the SBLC meeting or made minor modifications, but maintained the intervention(s) only part of the time.

   3 - I made major changes or adaptations in the intervention(s) planned at the SBLC meeting, but then maintained the new intervention(s) the whole time.

   4 - I made major changes or adaptations in the intervention(s) planned at the SBLC meeting, but then maintained the new intervention(s) only part of the time.

   5 - I did not implement the intervention(s) planned at the SBLC meeting.

2. What degree of change have you seen in this child's performance since the last School Building Level Committee meeting?

   1  2  3  4  5
   much a little about the a little much
   worse worse same better better
TEACHER INTERVENTION INTERVIEW

Directions. The major objective of this interview is to elicit detailed information from the classroom teacher regarding the intervention(s) implemented in the classroom. A second objective is to get a picture from the teacher about what they think about the intervention process, their problems with it, and any ways they see to improve it.

1. Describe the intervention(s) implemented for the referred child.
   Interviewers should probe for specific details regarding:
   - materials used,
   - exact procedures followed,
   - session length,
   - contingencies and decision rules established,
   - location,
   - who was involved

2. Describe how often the described intervention was implemented over the intervention period (i.e., the period between the initial and follow-up SBLC meetings).
   Probe for details regarding:
   - how often used as described,
   - if and when changes were made,
   - if and when intervention was stopped

3. What problems, if any, did you run into trying to implement the interventions? Were there any particular problems that you saw with the intervention(s) themselves?

4. In your view, what is the purpose for undertaking the interventions for children who are referred to the School Building Level Committee?

5. Did the intervention make any difference in this child’s behavior? Do you feel that the intervention(s) planned for you to implement in the classroom would be sufficient (powerful enough) to remediate the difficulties the child was experiencing?

6. Are there any changes that could have been made in the interventions that could solve this child’s problems? Can you think of some way that someone could help you to maintain this child in your class?

7. How could the SBLC process be improved to make interventions more effective, and to ensure that the SBLC process really meets teachers’ needs?
TEACHER FOLLOW-UP INTERVIEW RATING SCALE

Case number: ____________  Rater: ____________

A. Directions to Raters. Review the Intervention Observation Protocol and available related meeting paperwork prior to reviewing the interview tape. Listen to the interview to obtain information about the nature of the intervention actually implemented in the classroom. Following your review of the interview complete the following scale to rate the degree to which the intervention has been implemented as described on the Intervention Observation Protocol.

1 - no evidence of implementation, (e.g., none of the planned elements of intervention present, child engaged in same program as other non-targeted children when special program described, required curriculum materials not present or being used, planned contingencies not being applied).

2 - partial or adapted implementation, (e.g., some important elements of the planned intervention present but some important elements missing, contingencies used but not on planned schedule, teaching procedure as planned but with different materials than planned).

3 - very minor modifications in the plan (e.g., small change in procedure with no important elements missing, teacher uses Star Chart instead of token, but delivered on same schedule).

4 - evidence of complete adoption of planned intervention (e.g., all important elements of planned intervention present).

B. Indicate on the scale below how often the teacher indicates having implemented the intervention.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>not implemented</td>
<td>implemented part</td>
<td>implemented the whole time</td>
</tr>
<tr>
<td>at all</td>
<td>of the time</td>
<td></td>
</tr>
</tbody>
</table>

C. With respect to the intervention that the teacher describes as having implemented (and ignoring degree of difference from protocol), indicate your rating of how effective the described intervention is likely to be.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>not at all</td>
<td>not very effective</td>
<td>moderately effective</td>
<td>very effective</td>
<td>extremely effective</td>
</tr>
</tbody>
</table>
C. Indicate on the scale below the degree to which the teacher reports the child's behavior having changed as a result of the intervention.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>much</td>
<td>a little</td>
<td>about the</td>
<td>a little</td>
<td>much</td>
</tr>
<tr>
<td></td>
<td>worse</td>
<td>worse</td>
<td>same</td>
<td>better</td>
<td>better</td>
</tr>
</tbody>
</table>
CURRICULUM VITAE
William Treen McKee

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EDUCATION: Ph. D. School Psychology
Louisiana State University, 1991
Dissertation: Process and Product in Prereferral intervention: A Study of Planning, Integrity, and Outcome
Supervisor: Dr. Joseph C. Witt

M. A. Educational Psychology and Special Education
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Thesis: Acceptability of Classroom Treatments and Factors Affecting Teachers' Ratings
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B. A. English Literature
University of British Columbia, 1972
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ASSISTANT PROFESSOR, Department of Educational Psychology and Special Education, University of British Columbia:
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August 1989 - July 1990
SCHOOL PSYCHOLOGY INTERNSHIP, Olympia School District, Olympia, Washington: Full academic year (1600 hours) as school psychologist to three elementary schools, responsible for case coordination, chair of assessment team, teacher consultation on instruction and behavior management, support for mainstreaming and integration of mildly and moderately handicapped children, parent training; at the district level provided consultation and assessment across a wide range of ages and populations, involvement in district level planning of support services for education of all children in the mainstream.

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SCHOOL PSYCHOLOGY PRACTICUM, Louisiana State University Laboratory School: Teacher Consultation, Intervention, Research Supervision of Junior Graduate Students; Livingston Parish Pupil Appraisal Services: Case Management, Teacher Consultation

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SCHOOL PSYCHOLOGY PRACTICUM, Psychological Services Center, Louisiana State University: Full Service Child and Family Psychological Assessment and Intervention, School Consultation, Individual Assessment and Intervention Planning

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January - April 1988
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SCHOOL AND CLINICAL PSYCHOLOGY PRACTICA, Louisiana State University Laboratory School: Individual Case Consultation Referrals, Parent Training, Test Anxiety Management Group, Study Skills Training Group, Psychological Assessment and Treatment Planning

July 1987
SESSIONAL INSTRUCTOR, University of British Columbia: Behavior Disorders in Children, Precision Teaching and Behavior Management

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Reviewer, School Psychology Quarterly

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Student Affiliate, American Psychological Association
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Member, Association for Educational and Psychological
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PUBLICATIONS:
Witt, J. C., Erchul, W. P., McKee, W. T., Pardue, M. M.,
control in school-based consultation: The
relationship between consultant and consultee topic
determination and consultation outcome. Journal of
Educational and Psychological Consultation.
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PAPER PRESENTATIONS:


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Revised 4-22-91
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Candidate: William Treen McKee

Major Field: Psychology

Title of Dissertation: Process and Product in Prereferral Intervention: A Study of Planning, Integrity, and Outcome

Approved:

[Signature]
Major Professor and Chairman

[Signature]
Dean of the Graduate School

EXAMINING COMMITTEE:

[Signature]

[Signature]

[Signature]

[Signature]

Date of Examination:

April 24, 1991