

DOCUMENT RESUME

ED 452 445

CG 030 861

AUTHOR Lee, Steven W.; Boughtin, Jodi L.
TITLE Effects of Training in Collaborative Problem-Solving on the Process and Outcomes of Student Assistance Teams.
PUB DATE 1999-04-00
NOTE 27p.; Paper presented at the Annual Conference of the National Association of School Psychologists (31st, Las Vegas, NV, April 6-10, 1999).
PUB TYPE Reports - Research (143) -- Speeches/Meeting Papers (150) -- Tests/Questionnaires (160)
EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Elementary Education; Elementary School Students; Elementary School Teachers; Models; *Participative Decision Making; *Problem Solving; *Referral; Regular and Special Education Relationship; Special Education; *Student Evaluation
IDENTIFIERS Student Assistance Programs

ABSTRACT

A study was designed, using a seven-step consultation model, to evaluate the impact of training on collaborative group problem solving during Student Assistance Team meetings. The study hypothesized that following the training, decreases would occur in the number of students referred for a comprehensive special education evaluation. It also projected that team training in consultation and problem solving would result in improved focus on specific problems of students, greater analysis of the immediate controlling conditions on behavior, and a more overt effort to adhere to the problem-solving process. Regular and special education educators who were members of the Student Assistance Team in a small, 2nd through 4th grade school received training. The referral and placement rates inspected before and after training indicated decreases in comprehensive evaluations and placements over time. Intervention meetings were examined using the Consultation Analysis Record. The results indicated significant increases in verbalizations about collection of data on student behavior, intervention plans, and the problem-solving process. Verbalizations regarding student behavior significantly decreased. In addition, a survey administered to examine teachers' perceptions of the team's effectiveness showed favorable response to the new problem-solving process. (Contains 7 tables and 27 references.) (JDM)

ED 452 445

Running head: EFFECTS OF TRAINING IN COLLABORATIVE PROBLEM-SOLVING

Effects of Training in Collaborative Problem-Solving on the Process and Outcomes of Student Assistance Teams
Steven W. Lee and Jodi L. Boughtin
University of Kansas

Paper presented at the Annual Meeting of the National Association of School Psychologists. Las Vegas, Nevada, 1999

BEST COPY AVAILABLE

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)

- This document has been reproduced as received from the person or organization originating it.
- Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

PERMISSION TO REPRODUCE AND
DISSEMINATE THIS MATERIAL HAS
BEEN GRANTED BY

J. LEE

TO THE EDUCATIONAL RESOURCES
INFORMATION CENTER (ERIC)

1

Abstract

There has been a paucity of research on the effects of Student Assistance Teams. Therefore, this study was designed to evaluate the impact of training in collaborative problem-solving on the process and outcomes of Student Assistance Team meetings. The training was conducted with members of an elementary school Student Assistance Team, and included the rationale for the pre-referral intervention model of service delivery and the use of a problem-solving sequence to address students' academic and behavioral difficulties. Two follow-up sessions were held to provide formative feedback to team members.

Referral and placement rates before and after training were inspected, indicating decreases in comprehensive evaluations and placements over time. Four baseline and three intervention meetings were examined using the Consultation Analysis Record (Bergan & Kratochwill, 1990; Gutkin, 1996). Results indicated significant increases in verbalizations about collection of data on student behavior, intervention plans, and the problem-solving process. Verbalizations regarding students' behavior and the setting in which the behavior occurs significantly decreased. In addition, a survey (NASP, 1996) administered to examine teachers' perceptions of the team's effectiveness showed favorable responses to the new problem-solving process. The results will be discussed in relation to the current consultation literature.

Effects of Training in Collaborative Problem-Solving on the
Process and Outcomes of Student Assistance Teams

The current national movement toward pre-referral intervention models of special education service delivery began due to concerns regarding the inadequacy of the traditional model (referral-testing-placement) in meeting students' diverse needs in the regular education setting (Carter & Sugai, 1989). The pre-referral intervention model emphasizes the reallocation of special education resources to provide assistance to teachers that is more immediate and more instructionally relevant than the formal testing process used in the traditional approach (Graden, Casey, & Christenson, 1985; Pugach & Johnson, 1989). Goals of pre-referral intervention models include: reducing inappropriate special education referrals and placements (Chalfant, Pysh & Moultrie, 1979), and increasing the accuracy of placement rates for those who are referred (Bahr, 1994), improving interventions to help students succeed in the least restrictive environment (Graden, Casey, & Christenson, 1985), and extending support to greater numbers of students who are not and will never be eligible for special education services (Pugach & Johnson, 1989; Pugach & Johnson, 1995).

Pre-referral intervention programs typically involve variations of two approaches to consultation: one-on-one consultation with special education staff, or informal problem-solving with teams (Pugach & Johnson, 1989). While research on the effectiveness of individual consultation has been quite extensive, there is a paucity of research on the effectiveness of group consultation in problem-solving teams (Gutkin, 1996). Wilcox (1980) called for the investigation of process variables in group consultation. The investigations that have been done focus more on the satisfaction of team members and less on intervention outcomes (Welch, Brownell & Sheridan, 1999).

Preliminary studies suggest that the use of collaborative problem-solving teams not only lead to enhanced interventions, but to improvements in

skills, attitudes, and behaviors of adult collaborators as well as students (Villa, Thousand, Nevin & Malgeri, 1996). When processes are introduced that lead to improvements in the quality of interventions, more successful student outcomes often result (Flugum & Reschly, 1994). Other studies have found that providing one-on-one consultation services to teachers resulted in reduced referral rates over time, which may indicate that teachers gained skills through consultation that enabled them to resolve their own problems in the future (Ritter, 1978). Pugach & Johnson (1995) also found that collaborative consultation between teacher dyads led to increased confidence and positive affect of teachers, while reducing special education referral rates.

Although there is evidence that school-based consultation can be an effective means of indirect service delivery, school staff are often inadequately prepared to work collaboratively to develop interventions that address the needs of diverse learners (Villa, et al, 1996). Referral rates can be affected by teachers' skepticism about the payoffs of the referral process (Rosenfield, 1987) and their perceptions of the competence of the professionals receiving the referrals (Christenson, Ysseldyke, & Algozzine, 1982). Although these factors can reduce the extent to which consultative services are utilized, training can enable school professionals to acquire the knowledge and skills necessary to collaborate effectively (Villa, et al, 1996). Even brief, one-day training sessions have been found to be effective in improving skills essential for consultation (McDougall, Reschly & Corkery, 1988; Zins & Ponti, 1996). Ideally, however, training of school consultants should be a long-term and continuous process of staff development (Safran & Safran, 1996).

School psychologists are uniquely suited to fill the need for on-going staff training to support school districts in the use of a pre-referral intervention model of service delivery. Given the fact that most school psychologists have training in collaborative consultation and classroom

intervention, providing staff development in these areas to other school professionals is an appropriate role for school psychologists (Bahr, 1994). Furthermore, school psychologists who facilitate the use of an effective problem-solving process through training or active involvement in Student Assistance Teams may be more likely to extend supportive services to greater numbers of students who are having difficulties in school.

Due to the relevance of pre-referral intervention teams, a more thorough investigation of the effects of staff training and the outcomes of team collaboration is needed (Gutkin, 1996). Although several studies have examined the effects of collaboration and consultation on special education referral, testing and placement rates (Ritter, 1978; Graden, Casey, & Bonstrom, 1985; and Pugach & Johnson, 1995), these studies have not examined the process outcomes or verbal interactions occurring during consultation with pre-referral intervention teams.

This study was designed to evaluate the impact of training in collaborative group problem-solving using a seven-step consultation model (Gutkin & Curtis, 1982, 1990) on the process as well as the outcomes of Student Assistance Team meetings. First, it was hypothesized that decreases in the number of students referred for a comprehensive special education evaluation would be found. This hypothesis follows from Chalfant, Pysh and Moultrie (1979) who found that implementation of problem solving teams resulted in over 65% of referred students were helped in the regular classroom without the need for comprehensive testing. Second, it was hypothesized that team training in consultation and ecological problem solving (Gutkin & Curtis, 1999), would result in improved focus on specific problems of students, greater analysis of the immediate controlling conditions on behavior and a more overt effort to adhere to the problem solving process. To evaluate this hypothesis it was postulated that specific codes on the Consultation Analysis Record (CAR) developed by Bergan and

Tombari (1975) would be affected by the training. For example, it was hypothesized that post-training increases would occur in specific statements and observations describing student behavior (CAR codes - Behavior Setting, Behavior & Observation), intervention plans (CAR code - Plan), in overt problem solving process statements (CAR code - Process Overt), and in summary comments (CAR code - Summarization). We hypothesized that significant decreases in comments about remote (and possibly less contingently related) environmental conditions (CAR code - Background Environment) would be made. Third, we were interested in teachers' subjective preferences/comments about the new approach in pre-referral team meetings. These data were collected via a modified questionnaire (NASP, 1996).

Method

Participants

The site selected for this study was a small elementary school in east-central Kansas that serves 400 students in grades 2 through 4. Staff members include 15 regular education teachers, and 15 special education and activities teachers. Training was provided to eight staff members of the pre-referral intervention team that was comprised of regular educators, special education staff, and an administrator. Regular educators were included as team members in order to promote a collaborative, non-hierarchical relationship (Pugach & Johnson, 1995), and to involve those who are experts in the practical classroom issues that are important in intervention development (Cosden & Semmel, 1992). The SAT met weekly for 60-90 minutes during the school day.

Procedure

Training. A one-day, seven hour training session was conducted at the school site by school psychology faculty from the University of Kansas who had been trained in ecological consultation and collaborative problem solving. The training was done in October 1997 and was divided into two

parts; 1) rationale and background of Student Assistance Teams (SAT) and, 2) team skills development. The rationale and background portion of the training included a definition of SAT, assumptions of the SAT (Chalfant, Pysh & Moultrie, 1979), a discussion of strengths/weaknesses of current pre-referral intervention team practices, and elements of effective team meetings (Anderlini, 1983).

In the team skill development portion, participants were trained in elements of good consultation and collaborative problem solving using a seven-step model (Gutkin & Curtis, 1982, 1990). The problem solving format used in the training is shown in Table 1. Modeling and role-playing activities were used to promote skills acquisition (Conoley, 1981). Following the training session, the SAT team presented their new orientation and procedures to building staff at a faculty meeting. To ensure treatment fidelity, the training faculty attended two follow-up visits to SAT team meetings. In these visits, a total of five cases were processed by the SAT with each followed by feedback on adherence to the original training regime.

Since allocation of sufficient time is a variable that may influence the effectiveness of pre-referral intervention teams (Carter & Sugai, 1989), substitute teachers covered referring teachers' classrooms during the training sessions and team meeting times. The actual implementation of the seven-step model and collaborative problem-solving process began in January 1998.

Data Collection

In order to examine the effects of training on both the process and outcomes of the Student Assistance Team, three types of data were collected: 1) referral and placement rates before and after training; 2) transcriptions of the verbal interactions during team meetings before and after training; and 3) a survey (NASP, 1996) measuring teachers' perceptions of the new process and the effectiveness of the team.

Analysis of Referral and Placement Rates

Three types of data were collected from team records to examine any changes in the pre-referral process over time: 1) the number of referrals to the pre-referral intervention team; 2) the number of referrals for comprehensive evaluation; and 3) the number of special education placements. Information was also collected regarding the types of referrals (academic, behavior, etc.) that were made. Data was obtained from school records of the pre-referral intervention team referrals during the 1995-1996, 1996-1997, and 1997-1998 school years. Due to the fact that the newly formed Student Assistance Team began implementing the problem-solving process in January through May 1998, only the data on referrals during this time period was collected from the previous years' records.

Analysis of Process Variables

Four baseline and three intervention meetings were videotaped and transcribed verbatim in order to examine the verbal interactions of team members using the Consultation Analysis Record (CAR) procedures. The meetings varied on aspects such as the number of team members present, the type of concerns expressed by the classroom teacher, and length of the meeting. Descriptive information regarding each of the meetings is provided in Table 2.

Consultation Analysis Record (CAR). The CAR was designed by Bergan and Tombari (1975), and was revised and updated by Bergan and Kratochwill (1990) and Gutkin (1996), who added the content category "Process Overt" to the original codes. This new category allows for an analysis of statements that refer to the consultation process itself, which can be used by consultants to influence the direction of the consultative process. Since the team training emphasized the importance of using these types of statements during consultation, the revised coding system used by Gutkin (1996) was utilized in this study. To conduct the analysis, all independent clauses were classified

with regard to their source, content, process and control characteristics. The definitions of subcategories associated with each of these categories are summarized in Table 3.

Inter-rater reliability. Graduate students in the University of Kansas school psychology program with prior training in school-based consultation coded all of the transcripts. To establish inter-rater reliability on the CAR codes, 50 statements were randomly selected from the examples provided by Bergan and Kratochwill (1990). A point-by-point comparison indicated that initial inter-rater agreement was .98 on the Source codes, .96 on the Control codes, .96 on the Content codes, and .88 on the Process codes. Because adequate inter-rater reliability was reached, the actual transcripts were then coded. Reliability checks were conducted on the transcriptions of each SAT meeting by randomly selecting 25 utterances from each transcript and assigning these statements to two coders. In one instance the coders fell below the minimum criteria of .85 for inter-rater agreement (Meeting 7: .84 on Content codes, and .74 on Process codes). When this occurred, the points of disagreement were reviewed and discussed by both coders, items were recoded, and an additional sample of 25 statements was selected for point-by-point comparison. Adequate reliability was obtained on all subsequent transcripts coded, as described in Table 4.

Data Analyses. Meeting times at post-test taping were almost twice as long (mean = 22.67 minutes) as those at the pre-test taping (mean = 11.75 minutes). Therefore, the proportion of statements classified into each category, rather than the frequency of the statements, was used to determine whether the training had an effect on the verbal interactions of the team members. A formula described by Ferguson (1981) was used to examine the significance of the difference between two independent proportions for the following Content subcategories: Background Environment, Behavior Setting, Behavior, Observation, Plan, and Process Overt. In addition, the formula was

used to examine changes in the proportion of Process statements coded in the Summarization subcategory. Control for experiment-wise error for the multiple comparisons in the study was obtained through the use of Bonferoni's t-statistic.

Analysis of Consultee's Perceptions

In order to examine the perceptions of teachers participating as consultees in the SAT process, the Survey of Pre-referral Intervention Practices and Effectiveness was administered in May 1988 to the regular education teachers in the school. This instrument was used to provide feedback to help the team to identify strengths and weaknesses.

Results

Analysis of Referral and Placement Rates

The data collected on the referral and placement rates during 1996, 1997, and 1998 are summarized in Table 5. Based upon the information provided by school records, there was a reduction in the number of referrals for comprehensive evaluation and placements in special education over the past two years. This trend was noted prior to the SAT training, between the 1996 and 1997 school years. However, while the number of referrals for evaluation decreased, the number of referrals to the Student Assistance Team increased slightly during 1998. In fact, 78% of the students who were referred to the pre-referral team in 1997 were comprehensively evaluated, while only 18% of the students referred to the SAT during 1998 were evaluated. Because the Student Assistance Team in this building is the only avenue leading to comprehensive evaluation, the fact that fewer students were referred for evaluation may indicate that a much larger percentage were helped in the regular classroom (Chalfant, Pysh & Moultrie, 1979).

CAR Observation Codes

A total of 1867 statements (881 pre-intervention and 986 post-intervention) were categorized using the CAR codes. The data obtained from

the CAR Observation Codes were analyzed in two ways. First, the proportions of statements in each category were compared from pre- to post-intervention meetings. The frequencies, percentages, standard deviations, z values and p values for all of the CAR observation codes are summarized in Table 6.

As hypothesized, there was a statistically significant increase in the percentage of utterances in the Observation category ($z = -5.403$, $p = 0.000$), the Process Overt category ($z = -4.584$, $p = 0.000$) and the Plan category ($z = -11.636$, $p = 0.000$) from pre to post SAT meetings. Although it was hypothesized that there would be an increase in the frequency of statements regarding student behavior and the antecedents/consequences of the behavior, results indicated a significant decrease in utterances categorized as Behavior statements ($z = 7.997$, $p = 0.000$) and Behavior Setting statements ($z = 4.7$, $p = 0.000$). There was no significant difference between the proportions of statements in the Background Environment category ($z = 1.89$, $p = 0.0588$), which had been expected to decrease. In addition, there was no significant change in the percentage of statements in the Summarization category ($z = 0.276$, $p = 0.7794$) which was hypothesized to show an increase after training.

Analysis of Consultee's Perceptions. The results of the teacher survey are summarized in Table 7. The survey was distributed to 15 teachers, 13 of whom responded by completing the survey. Three teachers completed only the first two questions, indicating that they had not been involved with the Student Assistance Team as a consultee. A few specific items were inadvertently omitted by some of the remaining respondents. Therefore, the number of respondents is listed separately for each item in the results presented in Table 7.

Overall, the results of the surveys completed by regular education teachers indicated favorable impressions of the team meetings on aspects including defining goals, monitoring progress, and generating intervention

strategies. Ninety percent of those surveyed felt that the Student Assistance Team is a consultative service worth keeping in the school. The majority of respondents indicated that they felt the team members were attentive to the problems they were presenting, and that the tone of the meetings was warm/friendly.

Discussion

The results of this study begin to shed light on the question of whether problem solving based school consultation (group consultation in this case) leads to more effective interventions (Zins & Ponti, 1996). Compared to previous years at the target school, a much lower percentage of students seen through the SAT were actually referred for comprehensive evaluation. In line with Chalfant, Psyh, & Moultrie, (1979), these findings indicate that these students were helped in the classroom due to the interventions derived from the SAT. However, future studies are needed to carefully examine the factors relating to teachers' decisions not to pursue a comprehensive evaluation after having met with the SAT. These factors may include personal, professional, team process and structure factors (Rosenfield, 1987) as well intervention success.

Results from the CAR process codes revealed significant decreases in the discussions of proximal environmental contingencies related to the referring problem (i.e., Behavior Setting and Behavior codes) contrary to our hypotheses. It should be noted that Behavior comments still constituted 23% of the utterances at the post-intervention team meetings. Contradictory to our hypotheses and McDougall, Reschly and Corkery's (1988) findings were statements regarding distal environmental conditions that did not significantly decrease as expected.

As expected the team consultation training yielded significant post-intervention increases in statements regarding data gathering and recording activities. These findings are also in line with McDougall et al. (1988) for

problem solving oriented dyadic consultations. Perhaps most importantly these data show that training of this type can increase SAT's focus on a problem solving structure and vastly improve solution-focused planning.

Other effects of interest include a significant increase in disagreements among members (Negative Evaluation) even though the total percentage of these utterances remained below the percentage of post-intervention agreement statements (Positive Evaluation). A significant increase in post-intervention statements were found in eliciting statements (i.e., questions) perhaps indicating a trend toward seeking more input from team members at each stage of the consultation process than has been previously found in dyadic consultation (McDougall et al., 1988).

The teacher survey on the effectiveness of the SAT corroborated findings from other studies indicating that direct training in consultation makes it more acceptable to teachers (Zins & Ponti, 1996). Wilcox (1980) found in her group consultation research that teacher's positive attitudes toward consultation relate to the organizational skills of the team and meeting structure. The teacher survey results presented provide evidence to support if not confirm Wilcox's (1980) findings.

While additional studies are needed to confirm and extend these results, these preliminary data point to potentially positive effects of direct training to pre-referral intervention teams in collaborative consultation and problem solving. More specifically, these positive effects included reduced referrals for comprehensive testing, an increased emphasis on data gathering, solution-focused planning, and process regulating statements. Ninety percent of the surveyed teachers believed that the newly trained SAT is a service that should be kept in the school.

References

- Anderlini, L.S. (1983). An inservice program for improving team participation in educational decision-making. School Psychology Review, 12, 160-167.
- Bahr, M. W. (1994). The status and impact of prereferral intervention: "We need a better way to determine success." Psychology in the Schools, 31, 309-318.
- Bergan, J. R., & Kratochwill, T. R. (1990). Behavioral consultation and therapy. New York: Plenum Press.
- Bergan, J.R., & Tombari, M.L. (1975). The analysis of verbal interactions occurring during consultation. Journal of School Psychology, 13, 209-226.
- Carter, J., & Sugai, G. (1989). Survey on prereferral practices: Responses from state departments of education. Exceptional Children, 55 (4), 298-302.
- Chalfant, J.C., Pysh, M.V., & Moultrie, R. (1979). Teacher assistance teams: A model for within building problem solving. Learning Disability Quarterly, 2, 85-96.
- Christenson, S., Ysseldyke, J., & Algozzine, B. (1982). Institutional constraints and external pressures influencing referral decisions. Psychology in the Schools, 19, 341-345.
- Conoley, J.C. (1981). Emergent training issues in consultation. In J.C. Conoley (Ed.), Consultation in the schools (pp. 223-264). New York: Academic.
- Cosden, M. A., & Semmel, M. I. (1992). Teacher assistance teams: a conceptual and empirical review. Special Services in the Schools, 6 (3/4), 5-25.
- Ferguson, G. A. (1981). Statistical Analysis in Psychology and Education. (5th ed.). New York: McGraw Hill.
- Flugum, K.R., & Reschly, D.J. (1994). Prereferral interventions: Quality indices and outcomes. Journal of School Psychology, 32, 1-14.
- Graden, J. L., Casey, A., & Bonstrom, O. (1985). Implementing a prereferral intervention system: part II. The data. Exceptional Children, 51 (6), 487-496.
- Graden, J. L., Casey, A., & Christenson, S. L. (1985). Implementing a prereferral intervention system: Part 1. The model. Exceptional Children, 51 (5), 377-384.

Gutkin, T.B., & Curtis, M.J. (1982). School-based consultation: Theory, techniques, and research. In T.B. Gutkin & C.R. Reynolds (Eds.), The handbook of school psychology (pp. 796-828). New York: Wiley.

Gutkin, T.B., & Curtis, M.J. (1990). School-based consultation: Theory, techniques, and research. In T.B. Gutkin & C.R. Reynolds (Eds.), The handbook of school psychology (2nd, ed., pp. 577-611). New York: Wiley.

Gutkin, T.B., & Curtis, M.J. (1999). School-based consultation theory and practice: The art and science of indirect service delivery. In T.B. Gutkin & C.R. Reynolds (Eds.), The handbook of school psychology (3rd, ed., pp. 598-637). New York: Wiley.

Gutkin, T. B. (1996). Patterns of consultant and consultee verbalizations: examining communication leadership during initial consultation interviews. Journal of School Psychology, 34 (3), 199-219.

McDougall, L. M., Reschly, D. J., & Corkery, J. M. (1988). Changes in referral interviews with teachers after behavioral consultation training. Journal of School Psychology, 26, 225-232.

National Association of School Psychologists. (1996).

Pugach, M. C., & Johnson, L. J. (1989). Pre-referral interventions: progress, problems, and challenges. Exceptional Children, 56 (3), 217-226.

Pugach, M. C., & Johnson, L. J. (1995). Unlocking expertise among classroom teachers through structured dialogue: extending research on peer collaboration. Exceptional Children, 62 (2), 101-110.

Ritter, D. R. (1978). Effects of a school consultation program upon referral patterns of teachers. Psychology in the Schools, 15 (2), 239-243.

Rosenfield, S.A. (1987). Instructional consultation. Hillsdale, New Jersey: Erlbaum.

Safran, S. P., & Safran, J. S. (1996). Intervention assistance programs and prereferral teams: directions for the twenty-first century. Remedial and Special Education, 17 (6), 363-369.

Villa, R. A., Thousand, J. S., Nevin, A. I., & Malgeri, C. (1996). Instilling collaboration for inclusive schooling as a way of doing business in public schools. Remedial and Special Education, 17 (3), 169-181.

Welch, M., Brownell, K., & Sheridan, S.M. (1999). What's the score and game plan on teaming in schools: A review of the literature on team teaching and school-based problem solving teams. Remedial and Special Education, 20 (1), 36-49.

Wilcox, M.R. (1980). Variables affecting group mental health consultation for teachers. Professional Psychology, 11 (5), 728-732.

Zins, J. E., & Ponti, C. R. (1996). The influences of direct training in problem solving on consultee problem clarification skills and attributions. Remedial and Special Education, 17 (6), 370-376.

Table 1

Problem Solving Format

1. Define and clarify the problem.
 - a. State the problem in concrete behavioral terms.
 - b. When appropriate, divide the problem into its component parts and determine which component or combination of components will be dealt with first.
 - c. Identify the terminal goals.
 2. Analyze the forces impinging on the problem.
 - a. Identify forces, which impede the solution of the problem.
 - b. Identify forces, which contribute to the solution of the problem.
 - c. Identify forces, which may be neutral, which must be taken into account in solving the problem.
 3. Brainstorm multiple alternative solutions for the problem.
 4. Evaluate and choose among alternatives.
 5. Specify consultant and consultee responsibilities.
 6. Implement the solution(s).
 7. Evaluate the effectiveness of the action and recycle if necessary.
-

Table 2

Descriptive Information on Pre-Intervention and Post-Intervention SAT Meetings

Meeting	Pre or Post Interven tion	Referral Type	No. of Members Present	Initial or follow-up Meeting	Length (Minutes)
1	Pre	Academic	5	Initial	13
2	Pre	Academic	7	Follow-up	12
3	Pre	Gifted	5	Initial	12
4	Pre	Behavior	6	Initial	10
5	Post	Gifted	7	Follow-up	21
6	Post	Academic	5	Follow-up	13
7	Post	Academic and Behavior	8	Initial	31

Table 3

Summary of the CAR Coding System

SOURCE CODES

Consultant: "those people who are rendering professional services to individuals functioning as change agents with respect to the child." (p. 46)

Consultee: "individuals who function as change agents with respect to the behavior of a client" (p. 46).

CONTENT CODES

Background Environment: "verbalizations concerning 'remote' environmental conditions related to behavior" (p. 47).

Behavior Setting: "verbalizations referring to antecedent, consequent, and sequential conditions occurring contiguously with a client's behavior (p. 48).

Behavior: statements referring to "what the client does," including the client's covert processes and overt actions, as well as statements regarding records of the behavior and behavioral goals (p. 50).

Individual Characteristics: "verbalizations about individual attributes of the client," such as intellectual characteristics, physical characteristics, gender, and age (p. 51).

Observation: verbalizations regarding "observations and recording activities such as those involved in gathering data on client behavior" (p. 52).

Plan: statements regarding "one or more plans to solve the problem or problems presented by the consultee" (p. 52).

Process Overt: "verbalizations that address the problem solving process itself rather than aspects of the presenting problem" (Gutkin, 1996).

Other: "a catch-all category to cover subjects not explicitly delineated in the other content subcategories" (p. 53).

PROCESS CODES

Specification: statements made to "provide or elicit descriptive or definitional information regarding the various content subcategories under discussion" (p. 54).

Table 3 (continued)

Positive Evaluation: statements that indicate positive "attitudes or emotional reactions of a speaker toward the things that he or she is discussing" (p. 54).

Negative Evaluation: statements that indicate negative "attitudes or emotional reactions of a speaker toward the things that he or she is discussing" (p. 54).

Inference: statements that "provide or call for judgments as opposed to statements of fact" (p. 56).

Positive Validation: utterances that "provide or call for agreement . . . with regard to matters of fact" (p. 58).

Negative Validation: utterances that "provide or call for disagreement . . . with regard to matters of fact" (p. 58).

CONTROL CODES

Elicitor: "an utterance that calls for a response in a particular content subcategory and a particular process subcategory" (p. 60).

Emitter: "a verbalization that provides content and process information to a listener but does not call for a specific response on the part of the listener" (p. 62).

Note. Quotations were taken from Bergan and Kratochwill (1990) unless otherwise noted in Table 3.

Table 4

Inter-rater Reliability on CAR Codes

Meeting	Source Codes	Control Codes	Content Codes	Process Codes
1	1.00	.88	.88	.88
2	1.00	1.00	.92	1.00
3	1.00	1.00	.88	.92
4	1.00	1.00	.88	.88
5	.92	.94	.96	.96
6	.96	1.00	.88	.96
7	1.00	1.00	.92	.96

Table 5

Referral and Placement Rates for January through April

Referral Type	Referrals to SAT			Referrals for Comprehensive Evaluation			Special Education Placements		
	1996	1997	1998	1996	1997	1998	1996	1997	1998
Academic	5	4	3	3	3	0	3	0	0
Behavior	2	1	2	0	1	0	2	0	0
Gifted	9	2	6	9	2	2	0	1	0
Speech	0	1	0	0	1	0	0	1	0
OHI	0	1	0	0	0	0	0	0	0
TOTAL	16	9	11	12	7	2	5	2	0

Table 6

Frequencies and Percentages of Interview Statements Within Each CARSubcategory

Variable	Pre-Intervention			Post-Intervention			Z	p*
	Meetings			Meetings				
	Frequency	Mean	SD	Frequency	Mean	SD		
	%	of %		%	of %	value		
SOURCE CODES								
Consultee	386	43.6	11.2	454	47.6	7.3	-0.96	0.33
Consultant	495	56.4	11.2	532	52.4	7.3	0.96	0.33
CONTENT CODES								
**Bckgrnd. Env.	114	13.4	8.5	100	10.4	8.5	1.89	0.05
**Behavior Set.	129	14.8	10.2	77	7.8	3.2	4.70	0.00
**Behavior	332	36.9	13.3	206	23.3	12.5	7.99	0.00
Ind. Character.	88	9.9	7.4	35	3.7	2.1	4.15	0.00
**Observation	2	0.2	0.5	38	3.8	2.9	5.40	0.00
**Plan	82	9.6	6.0	308	29.4	15.9	11.63	0.00
**Process Overt	7	0.8	0.6	41	3.6	3.3	4.58	0.00
Other	127	14.4	5.3	181	18.1	3.0	-2.29	0.02
PROCESS CODES								
Specification	485	54.7	7.5	524	52.7	3.4	0.82	0.40
Positive Eval.	70	8.1	3.6	51	5.6	1.8	2.43	0.01
Negative Eval.	10	1.2	0.9	45	4.6	1.5	4.374	0.00
Inference	77	8.8	3.5	66	7.7	4.6	1.66	0.09
**Summarization	26	2.9	1.2	27	2.4	2.2	0.27	0.77
Positive Valid.	204	23.4	5.4	257	25.6	6.1	1.45	0.14

Table 6 (continued)

Variable	Pre-Intervention			Post-Intervention			Z	p*
	Meetings			Meetings				
	Frequency	Mean %	SD of %	Frequency	Mean %	SD of %		
CONTROL CODES								
Elicitor	102	11.7	5.2	198	18.4	7.7	-4.99	0.00
Emitter	779	88.3	5.2	788	81.6	7.7	4.95	0.00

** Hypotheses were made regarding designated codes p* < 0.0026 needed for significance

Table 7

Results of the Survey of Student Assistance Team (SAT) Practices and Effectiveness

	N		Items
	13	Have you participated in a meeting of the Student Assistance Team this school year?	
		Yes 85%	No 15%
	10	Have you requested one or more SAT meetings to discuss a student's school-related problem?	
		Yes 90%	No 10%
	6	Approximately how long after your request was the meeting held?	
		Mean = 2.5 weeks	
	11	How would you describe the tone of the meeting?	
		Warm/Friendly	Cold/Officious
		1 2 3 4 5	
		64% 9% 18% 9% 0%	
	11	How attentive were the members of the team to the problem you presented?	
		Very Attentive	Very Inattentive
		1 2 3 4 5	
		64% 18% 9% 9% 0%	
	11	What is your impression of the number of individuals participating in the meeting?	
		Far too many	A few too many
		0%	45%
			Nearly optimal
			55%
			Too few
			0%
			Far too few
			0%
	10	How effectively did the problem-solving process define and prioritize problems?	
		Very Effective	Very ineffective
		1 2 3 4 5	
		20% 30% 30% 10% 10%	
	10	How clearly did the process define a realistic goal or goals?	
		Very Clear	Very Unclear
		1 2 3 4 5	
		40% 20% 20% 0% 20%	

Table 7 (continued)

10	How effectively did the team process generate and select intervention strategies?								
	Very Effective	1	2	3	4	5		Very Ineffective	
		10%	50%	30%	10%	0%			
10	How effectively did the team assist in monitoring and evaluating progress?								
	Very Effective	1	2	3	4	5		Very Ineffective	
		10%	50%	10%	20%	10%			
10	Considering the costs involved in meeting and implementing intervention strategies, how effective was the Student Assistance Team in assisting you with the presenting problem?								
	Very Effective	1	2	3	4	5		Very Ineffective	
		10%	60%	10%	10%	10%			
10	Is the Student Assistance Team a consultative service worth keeping in this school?								
	Definitely yes	Probably yes	Not really sure	Probably not	Definitely not				
	30%	60%	0%	0%	10%				



U.S. Department of Education
 Office of Educational Research and Improvement (OERI)
 National Library of Education (NLE)
 Educational Resources Information Center (ERIC)



Reproduction Release
 (Specific Document)

I. DOCUMENT IDENTIFICATION:

Title: <u>Effects of Training in Collaborative Problem-Solving on the</u>	
Author(s): <u>Steven W. Lee and Jodi L. Boughtin</u>	
Corporate Source: <u>University of Kansas</u>	Publication Date: <u>April 1999</u>

II. REPRODUCTION RELEASE:

In order to disseminate as widely as possible timely and significant materials of interest to the educational community, documents announced in the monthly abstract journal of the ERIC system, Resources in Education (RIE), are usually made available to users in microfiche, reproduced paper copy, and electronic media, and sold through the ERIC Document Reproduction Service (EDRS). Credit is given to the source of each document, and, if reproduction release is granted, one of the following notices is affixed to the document.

If permission is granted to reproduce and disseminate the identified document, please CHECK ONE of the following three options and sign in the indicated space following.

The sample sticker shown below will be affixed to all Level 1 documents PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY _____ _____ TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)	The sample sticker shown below will be affixed to all Level 2A documents PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL IN MICROFICHE, AND IN ELECTRONIC MEDIA FOR ERIC COLLECTION SUBSCRIBERS ONLY, HAS BEEN GRANTED BY _____ _____ TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)	The sample sticker shown below will be affixed to all Level 2B documents PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL IN MICROFICHE ONLY HAS BEEN GRANTED BY _____ _____ TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
Level 1	Level 2A	Level 2B
↑ <input checked="" type="checkbox"/>	↑ <input type="checkbox"/>	↑ <input type="checkbox"/>
Check here for Level 1 release, permitting reproduction and dissemination in microfiche or other ERIC archival media (e.g. electronic) and paper copy.	Check here for Level 2A release, permitting reproduction and dissemination in microfiche and in electronic media for ERIC archival collection subscribers only	Check here for Level 2B release, permitting reproduction and dissemination in microfiche only

Documents will be processed as indicated provided reproduction quality permits.
 If permission to reproduce is granted, but no box is checked, documents will be processed at Level 1.

I hereby grant to the Educational Resources Information Center (ERIC) nonexclusive permission to reproduce and disseminate this document as indicated above. Reproduction from the ERIC microfiche, or electronic media by persons other than ERIC employees and its system contractors requires permission from the copyright holder. Exception is made for non-profit reproduction by libraries and other service agencies to satisfy information needs of educators in response to discrete inquiries.

Signature:	Printed Name/Position/Title: <u>Steven W. Lee, Associate Professor.</u>
Organization/Address: <u>621 JRP Hall</u> <u>1122 W. Campus Road Lawrence, KS</u>	Telephone: <u>(785) 864-3931</u> Fax: <u>(785) 864-3820</u>
	E-mail Address: <u>swlee@ku.edu</u> Date: <u>05/15/01</u>

66045-3101

III. DOCUMENT AVAILABILITY INFORMATION (FROM NON-ERIC SOURCE):

If permission to reproduce is not granted to ERIC, or, if you wish ERIC to cite the availability of the document from another source, please provide the following information regarding the availability of the document. (ERIC will not announce a document unless it is publicly available, and a dependable source can be specified. Contributors should also be aware that ERIC selection criteria are significantly more stringent for documents that cannot be made available through EDRS.)

Publisher/Distributor:
Address:
Price:

IV. REFERRAL OF ERIC TO COPYRIGHT/REPRODUCTION RIGHTS HOLDER:

If the right to grant this reproduction release is held by someone other than the addressee, please provide the appropriate name and address:

Name:
Address:

V. WHERE TO SEND THIS FORM:

Send this form to the following ERIC Clearinghouse:

ERIC Counseling and Student Services Clearinghouse
P.O. Box 6171
201 Ferguson Building
University of North Carolina at Greensboro
Greensboro, NC 27403-6171

ATTN: Processing Coordinator

However, if solicited by the ERIC Facility, or if making an unsolicited contribution to ERIC, return this form (and the document being contributed) to:

ERIC Processing and Reference Facility

Computer Sciences Corporation
4483-A Forbes Boulevard
Lanham, MD 20706
Telephone: 301-552-4200
Toll Free: 800-799-3742
FAX: 301-552-4700
e-mail: ericfac@inet.ed.gov