



1987

Teaching Social Problem-Solving Skills to Children

James Keyes

Loyola University Chicago

Follow this and additional works at: https://ecommons.luc.edu/luc_theses



Part of the [Psychology Commons](#)

Recommended Citation

Keyes, James, "Teaching Social Problem-Solving Skills to Children" (1987). *Master's Theses*. 3532.
https://ecommons.luc.edu/luc_theses/3532

This Thesis is brought to you for free and open access by the Theses and Dissertations at Loyola eCommons. It has been accepted for inclusion in Master's Theses by an authorized administrator of Loyola eCommons. For more information, please contact ecommons@luc.edu.



This work is licensed under a [Creative Commons Attribution-Noncommercial-No Derivative Works 3.0 License](#).
Copyright © 1987 James Keyes

Teaching Social Problem-Solving
Skills to Children

by
James Keyes

A Thesis Submitted to the Faculty of the Graduate School
of Loyola University of Chicago in Partial Fulfillment
of the Requirements for the Degree of
Master of Arts

April

1987

ACKNOWLEDGEMENTS

Grateful acknowledgement is made to all those who were instrumental in the completion of this thesis. First, I would like to thank the teachers who made this study possible: Mary McAuliffe, Betty Napora, and Kathy Conroy. The commitment of time and effort on their part, as well as that of the principal and school, was indispensable to the success of this project. Second, I would like to thank Ed Kearney for his generosity in helping to implement the ICPS program, as well as for his statistical expertise. Throughout this process he has been both a guide and friend. I would like to thank those assistants who diligently administered, typed and then scored the MEPS stories, Maria Corona and Paula Gremley. In addition, many thanks go to Wende Anderson for her last minute re-scoring of the MEPS stories. Her efforts and personal support meant more to the completion of this study than can be described. Thanks to my thesis committee, Alan S. DeWolfe, Ph.D. and Linda Heath, Ph.D., for their time, suggestions and support. The honesty and sense of humor expressed by each helped me to keep the project in perspective, and made the task more enjoyable than it could ever have been without them. Thanks. Finally, a special note of thanks to my parents, James and Kay Keyes. Their long distance support has kept me going through all the hurdles of graduate school, up to and including this thesis.

VITA

The author, James Anthony Keyes, is the son of James B. Keyes and Kathryn L. (Kane) Keyes. He was born October 16, 1962, in Seattle, Washington.

He completed his secondary education at Blanchet High School in Seattle, Washington. During this time, Mr. Keyes received his Eagle Scout Award from the Boy Scouts of America. In September, 1979, Mr. Keyes entered Seattle University's Honors Program on a fellowship from the university. He completed the two year program and then transferred to the University of Washington in the fall of 1981. Mr. Keyes received the degree of Bachelor of Science in Psychology in June, 1983. While he was at the University of Washington, Mr. Keyes became a student affiliate in the American Psychological Association.

In 1984, Mr. Keyes was admitted to the Doctoral program in Psychology at Loyola University of Chicago, where he is currently working toward his Ph.D. In 1984, Mr. Keyes received a grant from the National Institute of Mental Health to work with underserved populations (children). In 1985, he was awarded a graduate assistantship from Loyola University. Mr. Keyes is currently finishing the first of his two year rotation at the Charles R. Doyle, S.J. Child Guidance Center and Day School.

TABLE OF CONTENTS

Acknowledgements	ii
Vita	iii
Table of Contents	iv
List of Tables	vi
Contents of Appendices	vii
	<u>page</u>
INTRODUCTION	1
Review of Related Literature	3
Interpersonal Cognitive Problem-Solving	4
ICPS Training	7
Remediation	7
Secondary Prevention	8
Primary Prevention	9
Current Issues	11
Definition of Terms	12
Training Program	13
Measurement	14
Goals	15
Summary of Major Hypotheses	16
METHOD	17
Subjects.	17
Procedure	18
RESULTS.	22
Problem Solving Skill Acquisition	22
Problem Solving Ability and Behavioral Adjustment	26
Problem Solving and Peer Popularity	29
Children "At-Risk".	30
DISCUSSION	32
Discussion of Hypothesis 1	32
Discussion of Hypothesis 2	34
Discussion of Hypothesis 3	36
Discussion of Hypothesis 4	37
Summary of this study	38
Conclusions	40
Future Directions	41

REFERENCES	44
APPENDIX A	51
APPENDIX B	53
APPENDIX C	109
APPENDIX D	118

LIST OF TABLES

Table	Page
1. Median Change and Range in Obstacles	25
2. Correlations Between Teachers Ratings and Problem-Solving Performance on Means and Obstacles	28

CONTENTS FOR APPENDICES

	Page
APPENDIX A	
Parent's Consent Form	52
APPENDIX B Interpersonal Cognitive Problem-Solving Program . .	
Introduction	55
1. The ICPS Curriculum.	55
2. Teaching ICPS in the Classroom	56
3. Time	56
Week 1	
1. Feelings in Ourselves and Others	57
a. Feelings Crossword Puzzle	59
2. Divergent Thinking	60
Week 2	
1. Problem Identification	62
a. Problem Crossword Puzzle.	69
Week 3	
1. Generation of Alternatives	70
a. Figure 1.	74
b. Figure 2.	75
2. Solutions Competition.	76
a. Problem-solving Certificate	79
Week 4	
1. Consideration of Consequences	80
a. Figure 3	84
b. Consequences Crossword Puzzle	85
2. Defining and Practicing Consequences	86
a. Solutions Decision Game	88
Week 5	
1. Elaboration of Solutions (Nuances)	90
2. Elaboration of Solutions (Step-by-Step planning) . .	93
Week 6	
1. Integration of Problem-Solving Behaviors.	96
a. Problems and Obstacles	97
b. Problem-Solving Diary	99
2. Problem Discussion	101

Week 7	
1. The End	102
a. Problem-Solving Quiz	103
2. Problem-Solving Skits	104
3. Problem-Solving Wrap Up	105
SPS Encore	107

APPENDIX C Means Ends Problem Solving (MEPS) Test	109
Stories	110
Scoring	112
General	112
Means	112
Obstacles	115
Time	115

APPENDIX D Sociogram

Roster Rating	118
Behavioral Description of Peers	119

INTRODUCTION

Recently, mental health professionals have become more aware of the practical limitations in trying to reach all of the populations who need their assistance. Thus, we have witnessed a movement away from traditional treatment procedures toward a variety of more innovative service approaches. The goal of such innovations, according to Allen, Chinsky, Iarcen, Lochman, & Selinger (1976), is to extend the reach and effectiveness of our psychotherapeutic techniques, thus improving the capacity of our social organizations. Psychological interventions may now focus on prevention, or the building of strengths and competencies, rather than the slow amelioration of weaknesses. Prevention has been defined by Bower (1969) as any social or psychological intervention that promotes or enhances adaptive emotional functioning, or reduces the incidence and prevalence of emotional maladjustment, in the general population. Benefits of a preventive approach may include the potentially greater remediability of early-detected dysfunction and the reduction of personal suffering over the life span, decreased costs to the society in terms of institutionalization and treatment, as well as the possibility of strengthening competent, adaptive behaviors in the general population.

There have been problems in promoting prevention because of difficulty defining the concept of general adaptive functioning. Despite many years of efforts by both theorists and researchers, we

are no closer to a general definition of positive mental health than before (Gesten, de Apodaca, Weissberg, & Cowen, 1979). Thus, if effective functioning cannot be fully defined or described, how can it be promoted? Attempts to define such a global entity (which may not even exist) have given way to efforts to identify and promote specific skills and competencies, either cognitive or behavioral, which are thought to relate to positive adjustment. Therefore, a theory of cognitive problem-solving is being proposed in this thesis which suggests that there is a grouping of problem-solving skills which mediate the quality of children's social adjustment.

Until recently, empirical investigation had focused on problem solving as it applied to nonsocial content such as puzzles, mazes, and anagrams. However, little evidence has been found of a relationship between social adjustment and problem-solving performance on these impersonal tasks. Rather, recent studies (Elardo & Caldwell, 1979; Sarason & Sarason, 1981) have demonstrated a relationship between social adjustment and cognitive performance in solving hypothetical social problems. Many of these studies have shown a significant relationship between overt behavioral adjustment and the ability to generate alternative solutions to interpersonal problems and anticipate their consequences. The major implication of these studies, is that advanced social-cognitive abilities are positively correlated with the frequency of prosocial behavior, and negatively related to the frequency of antisocial behavior (Shantz, 1983). Evidence of this kind of relationship highlights the importance of treating peer relationship problems directly. If

children could be taught the skills to think about and solve interpersonal problems, they might become better adjusted than those children who lack these skills.

Review of Related Literature

Jahoda (1953) was among the first to recognize that an individual can choose to apply a variety of problem-solving skills and strategies in problematic social situations. The application of such skills and strategies, Jahoda reasoned, underlies effective interpersonal behavior. D'Zurilla & Goldfried (1971), more than a decade later, were the next to endorse problem-solving theory. They suggested the following five-stage model of social problem-solving: (a) problem-solving orientation or "set"; (b) problem definition and formulation; (c) generation of alternatives; (d) decision-making; and (e) verification. They theorized that people who utilize all or most of these stages in solving interpersonal problems would be more highly adjusted than those who lack these skills. They also proposed that problem-solving training procedures and therapy applications could be made from this model. Although these contributions were important to the development of problem-solving theory, the applicability of cognitive-oriented problem-solving concepts to real-life interpersonal situations needed further validation.

Spivack and Shure, and their colleagues at Hahnemann Medical College and Hospital, undertook to extend interpersonal problem-solving theory within the framework of a program of research aimed at measure development and validation (Butler, 1979). Their work

has been perhaps, the most systematic and comprehensive approach in the field to date. After reviewing the background of Interpersonal Cognitive Problem-Solving (ICPS), we shall return to their program in more detail.

Interpersonal Cognitive Problem-Solving

Researchers have found that problem solvers draw on, and appear to be limited by their repertoire of social-behavioral and social-cognitive abilities (e.g. assertiveness and role-taking skills), as well as by their store of social knowledge (e.g. familiarity with social rules and conventions) in generating, evaluating, and solving social dilemmas which confront them (Pellegrini & Urbain, 1985). For example, if a child is confronted with the problem of getting a coveted toy from a playmate, his or her thinking and behavior could take one of a multitude of problem-solving options. He or she could ask for the toy, could take the toy, or could coerce the teacher to solve the problem. While a wide variety of cognitive problem-solving skills have been described by various researchers, three especially have been found that consistently differentiate adjusted children from those with behavioral problems:

1. Alternative thinking: the ability to generate multiple alternative solutions to an interpersonal problem situation.
2. Consequential thinking: the ability to foresee the immediate as well as the long range consequences of a particular alternative, and to use this information in the decision making process.

3. Means-ends thinking: the ability to elaborate or plan a series of specific actions to attain a given goal, to recognize and devise ways around potential obstacles, and to use a realistic time framework in constructing a means to the goal.

(Spivack, Platt, & Shure, 1976)

There is evidence that these skills are not measured by traditional intelligence tests. Studies which looked at this relationship (e.g., Spivack, Platt, & Shure, 1976) have found low-to-moderate correlations between IQ and social problem-solving ability which, although significant, account for a small percentage of variance (Shantz, 1983). ICPS skills are also found to be different in important ways from those skills needed in the solution of more impersonal problems, i.e., puzzles and anagrams (Little & Kendall, 1979). Interpersonal problem-solving theory focuses more on the stylistic processes of children's thought, especially in problematic interpersonal situations.

In initial attempts to teach cognitive problem-solving skills to children, three methods were most frequently used. Contingency management teaches children new ways of behaving by reinforcing desirable behaviors while ignoring undesirable ones. Modeling teaches by demonstrating competent performance in particular social situations. Both of these teach inductively, it is up to the observer to infer principles from the given behaviors. Coaching strategies teach deductively. A number of general principles are provided, usually with behavioral examples. The observer is then expected to use the principles to generate appropriate behavior in

future situations (Pellegrini & Urbain, 1985). A recent approach that has found supporting evidence is Interpersonal Cognitive Problem-solving (ICPS). Similar to coaching in that both assume that cognitions mediate social behavior, ICPS focuses on the covert processes of the cognitions rather than the content (i.e., identifying problems, generating alternative solutions, etc.; rather than what the child knows about social etiquette). The promise of such programs is that by training at the level of processes that theoretically mediate social competence across a broad range of situations, generalizations will be built in as an integral part of treatment (Urbain & Kendall, 1980).

ICPS training appears to be advantageous in that it is easily implemented by teachers in classroom situations. Given that school is one of a child's major social outlets, this may be a prime environment for therapeutic efforts in multiple ways. Such a program of training could be built into the ongoing routine of the classroom. This method obviates the need to separate problem children from their peers to implement treatment. Secondly, teachers may represent a readily available treatment resource if the program could be designed to take into account their skills, needs and interests (Pellegrini & Urbain, 1985). Finally, given the thesis that children with proficient ICPS skills will be better adjusted, it may be possible through ICPS training to teach generally well-functioning children a set of coping skills that would insulate them from social maladjustment in later years. Before we attempt new integrations of ICPS training however, it is important

to review previous efforts. Therefore, in the next section of this paper, we will review the effects of ICPS training on remedial efforts with disabled or maladjusted youths. Secondly, we will look at the effects of ICPS training on prevention in both "At Risk" and normally functioning children.

ICPS Training

Remediation

One focus of ICPS training has been on remediation of social skills in maladjusted or disturbed children. In their study, Ollendick and Hersen (1979) identified 36 incarcerated juvenile delinquents with poor interpersonal skills. After matching subjects on relevant demographic variables, they were assigned to either a social skills (SS) training group or a discussion group. Those in the SS group focused on current interpersonal problems. Alternate methods of responding were devised, modeled and role-played by the therapist and youths involved. Subjects received feedback about their performance and social reinforcement for their problem-solving thinking and behavior. Behavioral measures found the SS group to have improved significantly more than the discussion group in their level of prosocial activity, though their acting-out behavior did not significantly decrease for the recorded period. One problem with this study however, is that the measures used to assess ICPS ability were not always relevant to the acting-out behaviors that these youths exhibited. Measures which were more appropriate to the behaviors of this type of child should have been utilized.

In a more recent study, Sarason and Sarason (1981) used modeling and role-playing in an effort to strengthen the cognitive and social skills of students in a high school with high dropout and delinquency rates. Students who were taught effective decision-making, as it was termed in this study, were both able to think of more adaptive solutions to a problematic situation, and to perform more effectively in a simulated job interview (involving self-presentation) than control-group peers. The results of this and similar studies (i.e., Sarason, 1968) are encouraging. If these skills can be taught to seriously maladjusted children and be maintained, the chances for rehabilitation are greatly increased.

Secondary Prevention

Numerous attempts have also been made to teach ICPS skills to children demonstrating early or relatively moderate signs of social maladjustment. Many of these children come from low-income, or inner-city homes and evidence weaker social abilities than their higher SES peers. These children are considered to be "At Risk" for more serious psychopathology later on and are suitable candidates for secondary prevention efforts (Pellegrini & Urbain, 1985). The most persuasive findings are those presented by the Hahnemann researchers (Spivack & Shure, 1974; Shure & Spivack, 1979, 1980). These researchers enlisted school teachers to train lower-class black children attending inner-city nursery and kindergarten schools. Prior to treatment, the children were rated on level of social adjustment by their teacher and were randomly assigned to

groups. Using modeling, role-playing, and social skills training, significant differences were found between the treatment group and a matched control group. These differences were maintained for over a year as evidenced in a later study which measured the effects of two years of training against the standard one. Results of this study (Shure & Spivack, 1979) showed that "At Risk" children gained significantly more from two years of training than one (and that one was significantly better than none). Secondly, treated "At Risk" children improved to almost the same level of adjustment as the "Not At Risk" controls, whereas many of the "At Risk" controls (untreated) showed post-test signs of social maladjustment. These findings are much more encouraging than previous studies designed to help "At Risk" children, i.e., Head Start. With the growing awareness of the lack of treatment resources, and the increased interest in community psychology, this method of training (i.e., prevention) is encouraging.

Primary Prevention

Whereas early ICPS training efforts focused on socially maladjusted and lower class children, attempts to teach ICPS skills to non-clinical and middle-class groups have proliferated in conjunction with interest in primary prevention. For example, Elardo and Caldwell (1979) report positive findings from their multifaceted efforts with middle-class 4th and 5th graders. Problem-solving components focused on formulating alternatives to social problem situations through role play and discussion. Other

facets of the program were specifically designed to enhance the children's ability to identify emotions and foster awareness of the thoughts and feelings of themselves and others. Outcome showed that experimental children improved more than no-treatment controls on measures of cognitive role taking and alternative thinking as well as on ratings of social behavior. Support for primary prevention is most apparent when one observes long-term data. In Shure and Spivack's 1979 study (above), the ratings of the children on level of adjustment show significant differences between the "Not At Risk" or "normal" children trained 2 years, 1 year, and no-treatment control children. It appears then, that ICPS training may insulate young children from developing social adjustment problems.

There have also been a number of equivocal findings in the literature on the training of ICPS skills. Weissberg, Gesten, Carnrike, Toro, Rapkin, Davidson, & Cowen, (1981) presented a 52 lesson, school-based, training program to both a group of black, inner-city, lower-class, third graders; as well as a group of white, suburban, middle class youngsters. Their procedures were similar to both those used above (Elardo & Caldwell, 1979; Shure & Spivack, 1979) and results indicated improvement on the cognitive problem-solving measures. However, behavioral adjustment ratings were not so clear-cut. In the suburban sample, trained children's prosocial behaviors increased and negative behaviors had decreased. However, teacher-ratings suggested that the same training program may have had a negative impact on urban children since some negative behaviors had increased. An explanation for these results was suggested when

urban experimental teachers complained that brainstorming alternative solutions often negatively affected class discipline. Their discomfort with this procedure was not discovered until it was reflected in measures used after the experiment was completed. In a subsequent study, Weissberg, Gesten, Rapkin, Cowen, Davidson, deApodaca, & McKim, (1981) modified their ICPS curriculum to meet the differing needs of suburban and urban teachers. This time, the results indicated improvement in the problem-solving skills and teacher-rated behaviors of all children.

Overall, the evidence supports the therapeutic effectiveness of ICPS training. Differences between studies which may account for some discrepant findings include such variables as definition of ICPS skills, methods of training and measurement, and the functioning of subjects involved. According to Pellegrini and Urbain (1985), now is a critical juncture in determining the future of this area of study. Only through a strengthening of methodology, including consistent use of constructs, well defined samples and control groups, and use of standardized measures; can we make conclusive statements regarding the effects of ICPS training.

Current Issues

The secondary prevention efforts which have been used with "At-Risk" children seem to allow for stigmatization of children by both teachers and their peers. This might interfere with any success ICPS training could provide. Therefore, some change needs to be made in these programs. Although treatment for both groups is

essentially identical, in the past children were grouped according to their level of adjustment. We felt that an integration of primary prevention and secondary prevention might utilize the positive aspects of each and still lead to successful treatments. Therefore, in this study, treatment is to be assigned on a classroom by classroom basis. In this way only the researcher will know the problem-solving status of any one child, and the teachers, who implement the program, will remain less biased. Since the programs for "normal" and "At-Risk" children are essentially the same, grouping their treatment suggests two advantages: 1) "At-Risk" children are not removed from their classroom and thus stigmatized by treatment, and 2) the initially well adjusted children can serve as peer role models during treatment which should strengthen adaptive behaviors in the "At-Risk" group. For the present, we must discount the problems in selection which occur as a result of group assignment. We are hopeful that the within-class comparisons ("Normal" vs. "At-Risk") will provide information not otherwise available.

Definition of Terms

Since there has been some ambiguity regarding the conceptualization of ICPS skills as used in the literature, we need to clarify their usage in this study. We chose to be consistent with the research of Spivack and Shure (1976,1979,1980) in relying upon the three ICPS behaviors which have most consistently differentiated adjusted from non-adjusted children: 1) Alternative

thinking, 2) Consequential thinking, and 3) Means-ends thinking. Alternative thinking will be measured by the number of alternatives, or Means, a child can generate to a problematic situation. Quality of the alternatives has not been of importance previously because both good and poor problem-solvers can generate good and poor alternatives. Consequential thinking is understood as the ability to foresee both the immediate and long range consequences of a given alternative. This ability will be looked at through the Means-ends Problem-solving test (MEPS). Finally, Means-ends thinking will be measured by the MEPS. Specifically, the MEPS is scored for the number of means elaborated toward a given story goal, the number of obstacles that might be encountered on the way to that goal, and the number of indications of time taken to reach the goal.

Training Program

Our training program will be somewhat different than those which have been used in the past. However, many of the specifics have been adapted from these programs (Spivack, et al., 1976; Elardo & Caldwell, 1979; Weissberg, Gesten, Liebenstein, et al., 1980). This is consistent with the theory of prevention programs (Allen, Chinsky, Larcen, et al., 1976) which suggests that because each environment is unique, the interventions used must be adapted to the specific placement. We will, however, utilize the same basic format of presentation which has previously been used: (a) Divergent feelings and thought, (b) Problem identification (including awareness of feelings), (c) Generation of alternatives,

(d) Consideration of consequences, (e) Elaboration of solutions, and (f) Integration of Problem-solving behaviors. A curriculum, which fully explains the training program we used will be found in Appendix B.

Measurement

A third area of confusion in past research has centered around measurement. Problem-solving ability is to be evaluated by the measures available thus far in this area: The MEPS test (explained above) measures the number of Means (Alternatives) generated, obstacles which are proposed, and the number of references to time in the solution to a problem. Although this test has not been completely standardized, its validity and reliability are within acceptable limits. However, in evaluating adjustment, tests which have been used range from those spontaneously developed by the investigator, to the Devereux Elementary School Behavior Rating Scale. Although the latter test has acceptable levels of validity, there are problems generated by this measure that would be alleviated through the use of other available tests. One of the better available tests is Edelbroch and Achenbach's Teacher Rating Form (TRF) of the Child Behavior Checklist (CBCL; Edelbroch & Achenbach, 1984). Its advantages go beyond acceptable validity and generalizability. It is also standardized over a fairly large population, and it includes information which will allow for measurement of children's adaptive functioning. It is the measure we will utilize in evaluating children's adaptive functioning. A

final measure, which has proved to be a reliable index of adjustment (Butler, 1979), is sociometric peer evaluation. When evaluating the effects of peer-oriented social behaviors, there is evidence that peer acceptance, measured sociometrically, may be considered a sensitive instrument for this purpose.

Goals

The goals of the present study are to examine the relationship between children's ICPS skills, indices of sociometric acceptance, and the quality of children's behavior as rated on the TRF. In so doing, perhaps we can explicate further the interrelationships between cognitive, behavioral, and reputational concepts of social adjustment that might have relevance for the development of further preventive-oriented training programs. Again, normal children who learn to use ICPS skills should have a significantly better chance of remaining well adjusted than their untrained peers. "At-Risk" children who learn to use these skills should be less likely to develop serious adjustment difficulties than their "At-Risk" peers. Moreover, by learning ICPS skills, we predict that many "At-Risk" children will improve to within normal limits of behavior. The fact that "At-Risk" children are not stigmatized by teachers and/or peers in this study, and the use of well-adjusted children as peer role models, should enhance the likelihood of this last goal. Finally, this study attempts to meet the above goals through the use of sound research practices. Many of the methodological errors cited by Pellegrini and Urbain (1985) have been addressed in this study.

Using constructs consistent with previous research, standardized measures, and appropriate control groups; it is hoped that this study will not only provide meaningful results, but will serve as a model whose standards future research will exemplify.

Summary of Major Hypotheses

1. Children in the experimental classes will improve significantly more in problem-solving ability than will children in the control classes.
2. There is a positive relationship between problem-solving ability and children's behavior as rated on the TRF.
3. There is a positive relationship between problem-solving ability and peer acceptance.
4. Children "At-Risk" for future maladjustment will return to within normal levels of behavior after problem-solving training.

METHOD

Subjects:

Subjects were 71 students (36 boys, 35 girls) at a Catholic elementary school in a large metropolitan midwest city. This particular school was picked both for its close proximity to the university and because the children were of low, middle and high SES. Teachers were approached in a faculty meeting at the beginning of the school year and told about the program. Three classes were recruited for the program, two experimental and one control. It was hoped that the three grades would be sequential because of developmental issues. Teachers from the 4th, 5th, and 6th grade volunteered to teach their classes the program. The experimental classes were randomly chosen to be the 4th and 6th grades. The 5th grade teacher was told that her class would be taught the program (if desired) when the experimental process was complete.

Subjects ranged in age from 7 to 11 years old. The program was taught during the Religion period for all classes. Most children were Catholic, however not all expressed a religious belief. Although not all subjects participated in the measures, all participated in the program. Parents were sent a letter [Appendix A] informing them that children in their child's class would be given a new program in Social Decision Making. To better evaluate the program as well as to better understand the social networks in which children are involved, we asked parents for permission to have

their child fill out a sociogram. It was decided that this was the only program component which necessitated parental permission. All other components were non-threatening and would be given as part of the regular classroom routine. If parents did not give permission for their child to do this, they were contacted by phone to request permission for their child to participate in the program evaluation measure, i.e., Means-Ends Problem-Solving Test (MEPS). If permission was granted, these children then participated in the MEPS, although they were not able to fill out a sociogram. In total, 61 students participated in the pre and post measures of problem-solving. However, only 57 children filled out a sociogram. The 4th grade consisted of 25 children, the 5th had 27, and the 6th had 21. The teachers in the 4th and 5th grade were both new to the school. However, the 5th grade teacher was previously experienced; the 4th grade teacher had just received her teaching certificate.

Procedure:

Teachers of the school were contacted before the new school year, to determine whether they would be willing to implement the program at their school. When it was determined that the three grades mentioned above would be willing to participate, an Interpersonal Cognitive Problem-Solving program was developed to meet the needs of 4th to 6th grade students. This program [found in Appendix B] was adapted from various sources (Spivack, et al., 1976; Elardo & Caldwell, 1979; Weissberg, et al., 1980). Of these, the most important and complete program was that of Weissberg et al.,

(1980). Although this program was developed for 2nd-4th graders, it was not too difficult to modify and adapt it for work with 4th-6th graders.

Initially, meetings were held with all three teachers to work out the logistics of the program (e.g., what days it would be taught) and just what it entailed. This occurred one month prior to the beginning of the program. Second, the experimenter acquired an assistant (another graduate student) who was willing to help implement this program in one of the two experimental classes. Each of the experimenters worked with one class (based on our mutual available time). I worked with the 4th grade, my assistant with the 6th grade. Lessons were distributed to the teachers and experimenters at least one week prior to the date of their use. Meetings were held at the beginning of every week to review the lesson plans, answer any questions, and often to role play how the lesson should be taught. This ensured the comparability of the program in both experimental classes. The only factors which seem to differ were teacher's experience, teaching styles, and personality factors of the different classes. The 4th grade teacher ran a more regimented (strict) classroom than did the 6th grade teacher. In the opinion of the experimenters, this was partly due to teacher's experience and partly due to personality factors of the different classes.

The program was introduced to the children two weeks before it was to begin. The experimenters observed the classes in which they would work one week before the program began. During this time, the experimenters were introduced to the children as graduate students

at Loyola University who would be helping to teach them a program in social problem-solving. The week before the program was begun, undergraduate students who had been trained to administer the MEPS (Spivack & Shure, 1972) [see Appendix C] came to the school and removed children one at a time from class to administer these problem-solving stories to them. At no time before or after the program was a connection made between the testing and the program. During this same week, teachers administered the sociogram [See Appendix D] to all the children who had parental permission to participate in this measure. Finally, during this week, and the first week of the program, teachers filled out the Teacher's Rating Form (TRF) of the Child Behavior Profile (Edelbrock & Achenbach 1984) for each child in their class. The TRF measured both Adaptive behaviors (such as working hard, happiness, etc.) and Negative behaviors (such as aggression). The ICPS program was begun in Mid-October and ran twice weekly until Christmas vacation in December. Since it had not been administered in this form, teachers and experimenters were unsure how long each lesson would require. The majority of lessons required between 45 minutes and 1 hour. However, if students were heavily engaged in a lesson, it sometimes ran for 1 hour 15 minutes. Finally, upon completion of the seven week program, post-test measures were taken. The same undergraduates returned to the school and administered the MEPS to the children. They were not able to test the same children they had previously tested because teachers sent their students in a different order. However, as in the pre-test, each undergraduate

tested an equivalent number of students from each of the three classes. These same undergraduates typed the stories and then scored the MEPS by using the scoring manual developed by Butler (1979) [found in Appendix C]. TRF scores were tabulated by both the undergraduates and the experimenter. Sociometric ratings were tabulated by the experimenter. Teachers had the same students fill out sociograms who had done so in the pretest. Finally, before they left for Christmas vacation, teachers reevaluated each of their students on the TRF.

After Christmas vacation, the fifth grade teacher was contacted by the experimenter to determine whether she wished to implement the program in her classroom. She did. Therefore, the same series of meetings proceeded instruction to the 5th grade. I served as the assistant in this class as well. The program ran from February to April, the only difference was the lack of pre- and post-testing.

RESULTS

Results of this study will be discussed in terms of the four main hypotheses introduced above: (a) The impact of training on problem-solving skills, (b) the effects of training on behavioral adjustment, (c) the effects of training on peer-rated popularity, and (d) the effects of the ICPS program on children's "At-Risk" status. Much of the data included extreme scores such that parametric statistics were not appropriate. Therefore, except for repeated measures (which non-parametrics do not allow) non-parametric statistics were used. All correlations, unless otherwise specified, are Spearman correlations. Inferential statistics were performed using the Mann-Whitney U test, and the Wilcoxon Matched-Pairs Signed Rank Test. Any other tests used will be specifically labelled.

Problem-Solving Skill Acquisition

The first hypothesis suggested that experimental groups would improve significantly more than the control group in problem-solving ability as measured by the MEPS test. The MEPS test was divided into three categories, the number of Means generated in the solution of a problem, the number of Obstacles raised to these solutions, and the number of references to Time in the solution of the problem. Problem-solving measures pretest and posttest responses were scored independently by two raters, blind to treatment condition.

Interrater reliabilities were computed with a Pearson correlation for Means ($r=.91$), Obstacles ($r=.60$), Time ($r=.73$), and Total Change ($r=.89$). It is apparent that for the variable Time, the low correlation was due in part to statistical artifact because almost all pretest scores were 0. Although this is part of the reasoning for the discrepancy in Obstacles scoring, part of the explanation must be that the scorers were not consistent in their definition of an obstacle. The TRF and the sociogram were scored by the experimenter, as their ratings were able to be objectively scored.

There were no significant differences between the experimental and control classes in the change between Means generated from pretest to posttest, $U=407$, $p>.05$. In this main category of problem-solving, generation of Means, there were no differences in the amount of improvement over time whether one was in the experimental group or the control group. In exploring the reasons for this finding, it was noted that the control group improved significantly in the number of means generated from pretest to posttest, Wilcoxon $z=2.4$, $p<.05$. Second, the 4th grade did not improve significantly from pretest to posttest in the number of Means generated, Wilcoxon $z=.84$, $p>.05$. The 6th grade, however, made the most significant improvements Wilcoxon $z=2.78$, $p<.005$. When both experimental classes were combined (4th and 6th grade), significant improvement was found, Wilcoxon $z=2.6$, $p<.01$. These results suggests that learning to generate solutions to a problem may not be the most important factor in teaching problem-solving programs. Other measures of problem-solving ability are discussed

below. Although the 4th grade did not improve significantly, the hypothesis that the experimental groups would improve significantly more than the control class, is most directly tested by combining the experimental classes. Thus, both experimental classes will be considered together in future analyses.

The second variable, Obstacles, was better able to distinguish between children in experimental classes and children in the control group. The ability of children to raise obstacles to a given solution increased in the experimental classes significantly more than in the control class, $U= 306$, $p<.05$. [Medians and Ranges of Change scores are presented in Table 1]. Since all groups improved in the number of Means generated, Obstacles seem to be the major variable which differentiate the effects of the ICPS program.

Children's references to Time showed no significant changes for any of the classes. In fact, pre-post changes were not obtainable because of the lack of variance (from zero) on this measure. It was therefore concluded that the effect of this variable on the program was negligible.

A final measure, Total Change, was composed of the three other variables, Change Means, Change Obstacles, and Change Time. This variable was not used in analyses because it was found that Change Means accounted for 92% of the variance in this measure ($r=.96$, $p<.001$). Since there were no differences between experimental and control groups in the number of Means generated, no differences were able to be found in this variable.

Table 1

Median Change in Obstacles
Range in Change Obstacles,
Experimental and Control Groups.

	Experimental
Median Change Obstacles	0.00
Change Obstacles Range	-4 to 10 14
	Control
Median Change Obstacles	0.00
Change Obstacles Range	-3 to 2 5

Another finding which suggests that Obstacles are the significant factor in teaching problem-solving was found. At pretest, correlations between children's ability to generate Means and Obstacles were significant for both experimental ($r=.62, p<.001$) and control groups ($r=.48, p<.01$). Although both groups improved significantly in their ability to generate Means at posttest, it was only in the Experimental group that children who generated more Means were better able to foresee possible Obstacles to their solutions and work around them, $r=.59, p<.001$. In the control group, one's ability to generate Posttest Means was negatively related to his/her ability to propose Obstacles to a given solution, $r= -.38, p<.05$. Although both groups significantly increased the number of means they generated, this result suggests that the relationship between Mean changes and Obstacle increases was qualitatively different in the experimental and control groups. ICPS program which is responsible for teaching one the ability to foresee possible Obstacles to solutions and how to work around them.

Problem-Solving Ability and Behavioral Adjustment

To determine the relationship between problem-solving ability and children's behavioral adjustment, correlations were made between scores on Edelbrock and Achenbach's TRF (1984), and problem-solving ability as measured by the MEPS. The TRF describes two kinds of behavior, Adaptive and Problem behaviors. In previous studies, the only relationship which has been demonstrated is that between problem-solving ability and Adaptive behaviors. Therefore, the

highest correlations were expected in this area. No significant relationship was found between change in Adaptive Behavior and change in Obstacles for either group. However, the relationship between Change Means and Change in Adaptive Behavior showed a trend toward significance in the control group ($r=.29$, $p<.10$). This relationship was not significant in the experimental group. [See Table 2.] These results indicate that children in the control group who were able to generate more means to a given solution were rated as increasing in prosocial behaviors by their teacher. This was not demonstrated in the experimental classes.

Second, the relationship between problem-solving (Means and Obstacles) and Problem behaviors was examined. In the experimental classes, there was a trend toward significance in the relationship between Change in Obstacles and Change in the number of Problem behaviors as rated on the TRF, $r= -.21$, $p<.10$. The relationship between Change in Obstacles and Change in Problem behavior for the control class was non-significant, $r=.02$, $p>.10$. Similar findings were not demonstrated between change in Means and change in Problem behaviors, for either group (all p 's $>.10$). These results indicate that children in the experimental group who increased the number of Obstacles they proposed, were likely to be rated by their teachers as having fewer Problem behaviors at posttest, than they did at pretest. In the control group this relationship was not demonstrated. It seems that in the experimental classes, the kind of problem-solving (Means, Obstacles) which was rewarded was qualitatively different than that in the control class.

Table 2

Spearman Correlations Between Adaptive Behavior (TRF)
and Problem-Solving performance on Means and Obstacles

		Adaptive Behavior		Problem Behaviors	
Experimental	Change Means	-.07	NS	-.07	NS
	Change Obstacles	.12	NS	-.22	p<.10
Control	Change Means	.29	p<.10	-.03	NS
	Change Obstacles	.25	NS	-.02	NS

Scores are Spearman Correlations

In other words, for the experimental classes, a child's ability to raise Obstacles seems to be the most relevant source of information about the child's behavior in the classroom.

Problem-Solving and Peer Popularity

The third hypothesis suggests that there is a positive relationship between one's problem-solving ability and popularity as rated by classmates. This relationship was evaluated by the correlation between Change in Popularity and Change in problem-solving ability. Specifically, for the experimental group, the correlation between Change Means and Change in Popularity was not significant, $r=.12$, $p>.05$; nor was it significant for the control group $r= -.18$, $p>.05$. There is no evidence of a relationship between Change Means and Change in Popularity for either Group.

The second relationship which was looked at is that between Obstacles and Peer popularity. In the experimental group, the relationship between Change Obstacles and Change in Popularity was significant, $r=.37$, $p<.01$; for the control group $r= -.01$, $p>.10$. It appears that children in the experimental group who produced a higher number of obstacles became more popular. In the control group this was not the case. Again, Obstacles seem to be the problem-solving skill which is best related to more objective behaviors, such as how one is viewed by one's peers. The lack of this problem-solving skill in the control group is possibly accounted for by lack of formalized training in problem-solving.

Children "At-Risk"

The fourth hypothesis dealt with children in the experimental group who were considered "At-Risk" for future maladjustment. Previously, this category has been determined by student's poor problem-solving ability and/or the amount of problem behaviors as rated by their teachers. However, no norms have been published in this area. Therefore, it was difficult to categorize who was "At-Risk." Variables which were considered were Means, Obstacles, Teacher's Ratings, and Popularity. Too few students were "At-Risk" in comparison to the other students for Obstacles and Teacher's Ratings to be used. When pretest Means were considered, 10 students were in the bottom quartile of the experimental group. Of these 10, only 4 (40%) increased their Means score at posttest. When pretest Popularity was examined, 13 students were in the bottom quartile of the experimental group. Of these, only 2 (15%) had increased Popularity scores at posttest. It was determined that if at least 50% had not shown improvement, change was not accountable to the ICPS program. Even when popularity and Means were considered as a grouping, only 7 of 21 (33%) improved to within a "Not-At-Risk" category. It was decided that the improvement rates should be examined for the control group and compared to those of the experimental group. Rates of improvement for this group were found to be the same as those in the experimental classes. Less than one-half improved on any single or combined measure. Therefore, there were no differences found between the experimental group and the control group in the improvement rates of "At-Risk" children.

Too few students were found to be "At-Risk" in either group to support the hypothesis of change from "At-Risk." Secondly, there was clearly not enough change in either group to determine that the ICPS program had any effect on whether a student moved from an "At-Risk" category to "Not-At-Risk."

DISCUSSION

The major results of this study concern the relationships between the experimental treatment and Social Problem-Solving (SPS) abilities, SPS ability and Overt Behavior (measured by teachers), and SPS ability and Popularity.

Discussion of Hypothesis 1:

Results in problem-solving ability did not turn out exactly as predicted. The area most problematic was that of Means. The 4th grade children did not improve significantly in the number of Means generated. However, because of the specific hypothesis, when the two experimental classes (4 & 6) were combined, improvement was significant. The 5th grade (controls) improved significantly as well. Explanations for these results may suggest why the 4th grade did not improve significantly, and why the 5th grade did so.

The 4th grade results may be due, in part, to their non-program classroom experience. An essential part of the program includes SPS dialoguing when a problem arises in the classroom. The 4th grade teacher did not report utilizing this process as much as the 6th grade teacher. Secondly, the 4th classroom was run more strictly than were other classes. This was due in part to this teacher's inexperience. Therefore, there was not as much opportunity and/or flexibility for dialoguing to arise in this classroom. A final explanation may have to do with commitment to the program. When the

4th grade teacher was confronted by parents who asked why their children needed to fill out peer evaluations early in the year, she was unable to venture an explanation, although it had been explained to her. These parents did not give permission for their children to participate in the sociogram. Thus it appears that, at least initially, there was some hesitancy about the program on this teacher's part. It appears that some combination of this teacher's inexperience, lack of commitment, and/or inflexibility using the SPS process during non-program time, contributed to the results achieved by 4th grade children.

The control group improved significantly in number of Means generated. A reason was found for this when the program was later administered to the control group. During the section on Brainstorming solutions to problems, the teacher explained that she had used this technique of generating Means to solve classroom problems all year long. Thus, the 5th grade in some sense had compensatory treatment at least in the generation of Means.

In contrast to the findings presented above, significant differences were found between the groups in their ability to propose Obstacles. It appears, that although the control group was taught to use Means, no emphasis was placed on the importance of Obstacles as an integral part of Problem-solving. Secondly, it was only in the experimental groups that one's ability to propose Obstacles was significantly related to his/her ability to propose Means. This data suggests that although the ability to generate multiple means to a solution is important, SPS ability is more than

just the generation of Means. Rather, maturity in reasoning about the social world and resourcefulness in planning solutions involves one's ability to foresee Obstacles and work around them. This is consistent with previous literature (Spivack & Shure, 1982) which suggests that ability to foresee Obstacles is a later stage of problem-solving ability. Although the majority of adults are able to foresee obstacles in problem-solving, this ability is developed over time and is not commonly found in very young children. It appears that the period when this ability becomes more important developmentally, coincides with the age of children in this study. One conclusion which may be drawn from these results is that children who participated in the program learned a qualitatively different kind of problem-solving. Problem-solving taught in the ICPS program may effect childrens' ability to generate Means. This is unclear because of the improvement shown by the control group. However, the unilateral increase of the experimental classes in ability to propose Obstacles, clearly appears to be associated with the efforts of this program. That change in ability to generate Obstacles is significantly related to other more objective measures, is increased evidence that Obstacles are the significant factor of successful problem-solving ability in this study.

Discussion of Hypothesis 2:

Results of this hypothesis show a relationship between problem-solving abilities and Overt Behavior (as rated by teachers). The relationship between Change in Obstacles and Change in Problem

behaviors showed a trend toward significance for children in the experimental group. Such a relationship was not demonstrated in the control group. Nor was the relationship significant between Change in Means and Change in Problem behaviors for either group. These findings indicate that in the experimental classes, one's ability to foresee and work around Obstacles in problem-solving was significantly related to positive changes in Teacher's ratings of Problem behavior.

One other result raises problems for this finding, however. The control group showed a similar trend toward significance in the relationship between Change in Means and Change in Adaptive Behavior as rated by teachers. This result is most commonly found in the literature as an effect of the treatment program. What makes this finding problematic here is that the control group evidences the finding and the experimental classes do not. Although any explanation at this point is Post Hoc, this result could be attributed to what was important in the program. The significant variable of change for children in the control class was Means. Therefore, it makes sense that children who improved most in this variable would be more positively rated by their teacher. Through the generation of Means, children in the control class were fulfilling the teacher's expectations of classroom problem-solving.

In the experimental classes, children did not end the program with the generation of Means. They went on to investigate Consequences and Obstacles as part of solving problems. Thus, number of Means may not be as important a factor as quality of

Means, and a later stage of Problem-solving, such as the ability to foresee Obstacles, may be a better predictor of Teacher's ratings after completing the program than Means, an early skill. Perhaps if the experimental classes had been evaluated after they had just learned Means, they too would have demonstrated a significant relationship between Change Means and Teacher's ratings. The distinction between Adaptive Behavior and Problem Behavior is important as well. If a problem-solving skill can reduce Negative behaviors, it would seem to be more important to a teacher's perception of classroom environment, than increasing one's Adaptive behavior if all other factors are the same. Thus, in terms of this study, that children's better ability to propose Obstacles was related to fewer negative classroom behavior is a significant result.

Discussion of Hypothesis 3:

The third hypothesis emphasizes the relationship between children's Problem-solving ability and their Popularity, as rated by peers. Experimental classes demonstrated a significant relationship between Change in the number of Obstacles proposed and Change in their Popularity. This relationship was not evident for the Control class. Second, neither group showed a significant relationship between Change in Means and Change in Popularity. The most obvious explanation for this finding is that it is a result of the ICPS program. Only in classes in which children had received formal training was there a significant relationship between increase in

Problem-solving ability (Obstacles) and Popularity.

An alternative explanation of this finding suggests that it was only those children who responded to the demands of the environment who became more popular. There was a demand for children to learn the whole of Problem-solving. Only those children who responded to this demand, as evidenced by greater ability to propose Obstacles (a higher stage of SPS) became rated more popular by their peers. Whichever explanation is accepted, it still seems that children's increased popularity is, in part, due to the effects of the Problem-solving program. In the control class, there was no relationship between any of the Problem-solving variables taught in the program and increase in Popularity. Thus, objective effects of this program are apparent.

Discussion of Hypothesis 4

The idea that this program would significantly impact on the behavior of "At-Risk" children was not born out. In part, this was due to the low number of children who could be considered "At-Risk" in the program. Secondly, though, children who were the poorest problem-solvers and/or the least popular did not significantly improve in these areas. Their improvement rates did not differ from those of the control class, and neither group increased by as much as 50%. These results may be due to the poor definition of "At-Risk" behaviors. If a more thorough definition of this term had been developed before the program was implemented, perhaps more improvement would have been found.

A second explanation, however, is that this program was designed as a primary prevention intervention. None of the children in these classes were referred to me for clinical intervention, although a few of these children and their families were in treatment at the time of the study. Since this program was oriented toward prevention, and not remediation of maladaptive behavior, techniques which were employed were designed to strengthen existing problem-solving behaviors. Little time was spent with individuals in order to mediate their problem-solving deficiencies. Future programs which intend remediation as part of their outcome should focus their efforts on individual children's problem-solving abilities. Thus, children who were deficient problem solvers would receive proportionately more SPS training in order to equate them with their "Not-At-Risk" peers. Results of this study indicate that unless such special attention is given to poor problem solvers, their problem-solving abilities may not increase in the context of a regular SPS program.

Summary of this Study:

The results of this study are encouraging, especially in light of previously unsuccessful problem-solving efforts. The program classes improved in their level of ICPS ability. Although there were no differences in generation of Means, the experimental classes increased significantly more than did the control class in ability to propose Obstacles, a higher stage of Problem-solving ability. In addition, ability to propose Obstacles was found to be related to

two different, objective ratings: Teacher's ratings of behavior and Peer ratings of Popularity. The design of this study tries to answer many of the methodological shortcomings found in a previous review of the ICPS literature (Pellegrini & Urbain, 1985). Problem-solving measures were taken both before and after the program. A control group was employed to determine what effects might be maturational. Most importantly, Problem-solving ability was tied to separate measures of adjustment: peer ratings and teacher evaluations. Teacher evaluations were conducted on a more formal, standardized measure than has been used previously. The usefulness of the TRF, even with children who do not evidence maladjustment, is apparent in this study. Its length can be considered a drawback. However, because of this, it becomes less likely that teachers will remember the ratings they had previously given students. By using reliable and standardized measures such as the TRF, researchers can be more confident about their results, as well as more confident about the generalizability of programs such as ICPS to outside behavior.

There were problems in this study which need to be remediated if the program is to be replicated. First, scorers of Problem-solving measures were only taught how to score the materials. In the future, scorers should first be trained to a high level of inter-rater reliability before they begin to score the materials. This will ensure more inter-rater consistency on constructs which may be somewhat subjective. Secondly, although the scorers were blind to which students were in the experimental and control

classes, they were not blind to which MEPS were pre- and which were post-test. Thus, the scorers may have been biased for all groups to improve at posttest. The differential results of the experimental and control groups suggest that this was probably not the case. [In addition, a third, highly devoted, friend re-scored all tests blind to previous scores, condition, and time of testing. Results were similar to original scoring.] Were the study to be repeated, the experimenter would have utilized an attention-control group. The control group would have had classes, similar in length and type of presentation to those used in the experimental group. However, topics for discussion might have been something such as current events. In this study however, the problem was that the teacher of the control class solved classroom problems through discussion and generation of solutions (Means). This is irrelevant to whether or not the class received some kind of treatment. Therefore, regardless of whether the control class receives similar non-treatment, they should be monitored closely to ensure that they are not receiving compensatory treatment.

Conclusions:

These findings suggest that Interpersonal Cognitive Problem-solving skills can be taught to older children than those with whom this method is usually used. Although teaching younger children has advantages in terms of future prevention (see Spivack & Shure, 1985), sometimes this training is not available to younger children. In terms of the materials presented, some aspects of problem-

solving are better learned when children are older and have the cognitive capacity to plan for future events. It appears in this study, for example, that there is a trend between age and one's ability to improve in the number of Obstacles proposed ($r=.22$, $p<.10$). This suggests one reason why the 6th grade showed the most improvement in problem-solving ability.

Second, the time frame of the initial program (teaching the basics) can be reduced while still producing positive results is encouraging both for prevention efforts and the teachers who may implement these programs. It has previously been shown that a longer span of training produces greater gains than a shorter training period (Shure & Spivack, 1979). However, in terms of teachers' willingness to implement the program initially, that some improvement can be shown in 7 weeks (both statistically and subjectively in this study) may encourage their future use of the ICPS program. Perhaps most indicative of the program's impact is the fact that member's of the school staff continued and expanded the program during the remainder of the year. Parents contacted the researcher to ask for a presentation so that the parents could continue the work this summer. Finally, the 3 teachers who were involved are committed to utilizing the program next year.

Future Directions:

Although improvements were made in this study from past research, much is yet to be known. One necessary line of research is the analysis of the components of the training programs. Future

studies should focus on how specific ICPS skills (i.e., Identifying Problems, Means, Consequences, & Obstacles) may relate to objective gains. For example, a time-series design which evaluated the children after each component was taught, might tell us which of the components is most important in program overall. However, such constant evaluation might affect the program adversely as well. A second change might be to have observers, who were blind to subject's experimental condition, unobtrusively rate the children's behavior at different points in the program to determine at what stage change is most apparent. Finally, an ideal study would teach ICPS at home in conjunction with the school program. The important factor is that parents would be able to practice these skills with their children in more than one environment. It was apparent in this study that when ICPS skills were reinforced outside of the specific class time, the most improvement was made. Therefore, if the skills were reinforced at home as well as at school, greater and more lasting improvement should be apparent.

In conclusion, the findings of this study, considered with those of previous studies, indicate that Interpersonal Cognitive Problem-Solving training is a promising preventive approach. Social problem-solving efforts appear to enhance children's social competence and sometimes reduce negative behaviors. The advantages of such programming becomes further evident when we notice trends suggesting an increase in maladjusted behavior patterns as children move through the early grades into adolescence. No claim is made that ICPS training is the only way to improve behavior. It is

recognized that the findings in this study are not conclusive. There is no assurance that the ICPS program presented here was responsible for significant changes in any of the children. Second, reasons why some children who were in the program did not improve (e.g., home environment, neighborhood, personality factors) were not thoroughly investigated. Nevertheless, by building competencies designed to keep relatively normal children from more serious disturbance later, we have taken the initial steps toward the goal of primary prevention.

REFERENCES

- Allen, G.J., Chinsky, J.M., Laroen, S.W., Lochman, J.E., & Selinger, H.V. (1976). Community Psychology and the Schools. Hillsdale, NJ.: John Wiley & Sons.
- Butler, L.J. (1979). Interpersonal problem-solving skills, peer acceptance and social misbehaviour in preadolescent children. Unpublished master's thesis. University of Waterloo, Waterloo, Ontario.
- Butler, L.J., & Meichenbaum, D. (1981) The assessment of interpersonal problem solving skills. In P.C. Kendall and S. Hollon (Eds.), Assessment Strategies for Cognitive-Behavioral Interventions. New York: Academic Press.
- Camp, B.W., & Bash, M.A. (1981). Think Aloud: A problem-solving program for children. Primary level. Champaign, IL: Research Press.
- Clark, F.W., Evans, D.R., & Hamerlynck, L.A. (Eds.). (1972). Implementing Behavioral Programs for Schools and Clinics. Champaign, IL.: Research Press.
- Cowen, E.L. (1984). A general structural model for primary prevention program development in mental health. Personnel and Guidance Journal, 62(8), 485-490.
- D'Zurilla, T.J., & Goldfried, M. (1971). Problem solving and behavior modification. Journal of Abnormal Psychology, 78, 107-126.

- Edelbrock, C.S., & Achenbach, T.M. (1984). The teacher version of the Child Behavior Profile: I. Boys aged 6-11. Journal of Consulting and Clinical Psychology, 52(2), 207-217.
- Elardo, P.T., & Caldwell, B.M. (1979). The effects of an experimental social development program on children in the middle childhood period. Psychology in the Schools, 16, 93-100.
- Elardo, P.T., & Cooper, M. (1977). AWARE: Activities for social development. Menlo Park, CA: Addison-Wesley.
- Feldhausen, J., Houtz, J., & Ringenbach, S. (1972). The Purdue Elementary Problem-Solving Inventory. Psychological Reports, 31, 891-901.
- Gesten, E.L., de Apodaca, R.F., Rains, M., Weissberg, R.P., & Cowen, E.L. (1979). Promoting peer-related social competence in school. In M.W. Kent & J.E. Rolf (Eds.), The primary prevention of psychopathology. Vol. 3: Social competence in children (pp. 201-219). Hanover, NH: University Press of New England.
- Jahoda, M. (1953). The meaning of psychological health. Social Casework, 34, 349-354.
- Kendall, P.C. (1981). Cognitive-behavioral interventions with children. In B.B. Lahey and A.E. Kazdin (Eds.), Advances in Clinical Child Psychology (Vol. 4). New York: Plenum Press.
- Kendall, P.C., & Fischler, G.L. (1984). Behavioral and adjustment correlates of problem solving: Validation analyses of interpersonal cognitive problem-solving measures. Child Development, 55, 879-892.

- Kendall, P.C., Pellegrini, D.S., & Urbain, E.S. (1981). Approaches to assessment for cognitive-behavioral interventions with children. In P.C. Kendall and S. Hollon (Eds.), Assessment Strategies for Cognitive-Behavioral Interventions. New York: Academic Press.
- Kent, M.W., & Rolf, J.E. (1979). Primary Prevention of Psychopathology: Vol. 3. Social competence in children. Hanover, NH: University of New England Press.
- Kifer, R.E., Lewis, M.A., Green, D.R., & Phillips, E.L. (1974). Training predelinquent youths and their parents to negotiate conflict situations. Journal of Applied Behavioral Analysis, 7(3), 357-364.
- Klien, D.C. & Goldston, S.E. (Eds.). (1976). Primary prevention: An idea whose time has come (DHHS Publication No. ADM 80-447). Washington, D.C.: U.S. Government Printing Office.
- Krasner, L.R., & Rubin, K.H. (1981). The assessment of social problem-solving skills in young children. In T. Merluzzi, C. Glass, & M. Genest (Eds.), Cognitive Assessment (pp. 452-476). New York: Guilford.
- Lambert, N. (Ed.). (1965). The Protection and Promotion of Mental Health in the Schools. Department of Health, Education, and Welfare, Public Service Publication No. 1126, Bethesda, MD.
- Little, V., & Kendall, P.C. (1979). Cognitive-behavioral interventions with delinquents: Problem Solving, Role Taking, and Self Control. In P.C. Kendall and S. Hollon (Eds.), Cognitive Behavioral Interventions: Theory, Research and Procedures.

New York: Academic Press.

- Mannarino, A.P., Christy, M., Durlak, J.A., & Magnussen, M.S. (1982). Evaluation of social competence training in the schools. Journal of School Psychology, 20, 11-19.
- McClure, L.F., Chinsky, J.M., & Larcen, S.W. (1978). Enhancing social problem-solving performance in an elementary school setting. Journal of Educational Psychology, 70(4), 504-513.
- Merluzzi, T.V., Glass, C.R., & Genest, M. (1981). Cognitive Assessment. New York: Guilford Press.
- Ollendick, T.H., & Hersen, M. (1979). Social skills training for juvenile delinquents. Behavioral Research and Therapy, 17, 547-554.
- Pellegrini, D.S. (1985). Social cognition and competence in middle childhood. Child Development, 56, 253-264.
- Pellegrini, D.S. & Urbain, E.S. (1985). An evaluation of interpersonal cognitive problem-solving training with children. Journal of Child Psychology, Psychiatry, and Allied Disciplines, 26(1), 17-41.
- Platt, J., Spivack, G., Altman, N., Altman, D., & Peizer, S. (1974). Adolescent problem solving thinking. Journal of Consulting and Clinical Psychology, 42, 787-793.
- Richard, B.A., & Dodge, K.A. (1982). Social maladjustment and problem-solving in school-aged children. Journal of Consulting and Clinical Psychology, 50, 226-233.
- Robin, A.L., Kent, R., O'Leary, K.D., Foster, S., & Prinz, R. (1977). An approach to teaching parents and adolescents

problem-solving communication skills: A preliminary report.
Behavior Therapy, 8, 639-643.

Sarason, I.G. (1968). Verbal learning, modeling and juvenile delinquency. American Psychologist, 23, 254-266.

Sarason, I.G., & Sarason B.R. (1981). Teaching cognitive and social skills to high school students. Journal of Consulting and Clinical Psychology, 49(6), 908-918.

Shantz, C.U. (1983). Social Cognition. In J.H. Flavell, & E.M. Markham (Eds.), Handbook of Child Psychology: Vol. 3. Cognitive Development (4th ed.). New York: Wiley.

Shure, M.B. (1981). Social Competance as a problem solving skill. In J. Wyne, & M. Smye (Eds.), (1981). Social Competence. New York: Guilford Press.

Shure, M.B., & Spivack, G. (1974a). A Mental Health Program for Kindergarten Children: Training script. Philadelphia: Hahnemann Medical College, Department of Mental Health Services.

Shure, M.B., & Spivack, G. (1974b). Preschool Interpersonal Problem Solving (PIPS) Test: Manual. Philadelphia: Hahnemann Medical College, Department of Mental Health Sciences.

Shure, M.B., & Spivack, G. (1978). Problem-Solving Techniques in Childrearing. San Francisco: Josey-Bass.

Shure, M.B., & Spivack, G. (1979a). Interpersonal cognitive problem-solving and primary prevention: Programming for Preschool and Kindergarten Children. Journal of Clinical Child Psychology, 2, 89-94.

Shure, M.B., & Spivack, G. (1979b). Interpersonal problem solving

thinking and adjustment in the mother-child dyad. In M.W. Kent & J.E. Rolf (Eds.), The primary prevention of psychopathology. Vol. 3: Social competence in children (pp. 201-219). Hanover, NH: University Press of New England.

Shure, M.B., & Spivack, G. (1980). Interpersonal problem solving as a mediator of behavioral adjustment in preschool and kindergarten children. Journal of Applied Developmental Psychology, 1, 29-44.

Shure, M.B., & Spivack, G. (1982). Interpersonal problem-solving (ICPS): A training program for the intermediate elementary grades. Philadelphia: Hahnemann Medical College, Department of Mental Health Services.

Spivack, G., Platt, J., & Shure, M.B. (1976). The Problem-Solving Approach to Adjustment. San Francisco: Josey-Bass.

Spivack, G. & Shure, M.B. (1974). Social Adjustment of Young Children: A Cognitive Approach to Solving Real-Life Problems. San-Francisco: Josey-Bass.

Spivack, G., & Shure, M.B. (1982). The cognition of social adjustment: Interpersonal cognitive problem-solving thinking. In B.B. Lahey and A.E. Kazdin (Eds.), Advances in Clinical Child Psychology (Vol. 5, pp. 323-372). New York: Plenum Press.

Spivack, G., & Shure, M.B. (1985). ICPS and Beyond: Centripetal and centrifugal forces. American Journal of Community Psychology, 13(3), 226-243.

Urbain, E.S. (1980). Interpersonal problem-solving training and social perspective-taking with impulsive children via modeling,

roleplay, and self-instruction. Doctoral Dissertation, University of Minnesota.

- Urbain, E.S. & Kendall, P.C. (1980). Review of social-cognitive problem solving interventions with children. Psychological Bulletin, 88, 109-143.
- Weissberg, R.P., Gesten, E.L., Carnrike, C.L., Toro, P.A., Rapkin, B.D., Davidson, E., & Cowen, E.L. (1981). Social problem-solving skills training: A competence-building intervention with 2nd-4th grade children. American Journal of Community Psychology, 9, 411-424.
- Weissberg, R.P., Gesten, E.L., Rapkin, B.D., Cowen, E.L., Davidson, E., de Apodaca, R.F., & McKim, B.J. (1981). Evaluation of a social problem-solving training program for suburban and inner-city third-grade children. Journal of Consulting and Clinical Psychology, 49(2), 251-261.
- Weissberg, R.P., Gesten, E.L., Liebenstein, N.L., Schmid, K.D., & Hutton, H. (1980). The Rochester Social Problem Solving (SPS) Program: A training manual for teachers of 2nd-4th grade children. Rochester, NY.: Primary Mental Health Project, Center for Community Study.
- Wine, J.D. & Smye, M.D. (1981). Social Competence. New York: Guilford Press.

APPENDIX A

Parent Consent Form

As you may know, our school participates in educational research projects from time to time during the school year. Currently we are teaching the children a unit on Social Decision Making. This involves enumerating the various things one must do to make a decision in an interpersonal situation. To allow us to better understand the social networks in which children are involved, we need more information in one area specifically. We ask your permission for your child _____ to participate in filling out a sociogram. This involves each child filling out a questionnaire in which he/she names who he/she most and least associates with. In this manner, we will be able to determine the various networks of friendships in the school environment.

The sociogram will be conducted by James Keyes, a Ph.D. student at Loyola University, and his assistants. Your child's name will not appear on any school records and the write-up of the project won't mention the names of individual children. If you have any questions, or you would like more information before signing this form, please feel free to give us a call at _____.

PLEASE RETURN THIS FORM WITH YOUR CHILD TO SCHOOL TOMORROW MORNING.
THANKS VERY MUCH!!

School Principal

Project Coordinator

Yes _____ I give consent for my child to participate

No _____ I do not consent for my child to participate

Signature of Parent/Guardian _____ Date _____

APPENDIX B

Interpersonal Cognitive Problem-Solving Program

[ICPS]

Also Known As

The I Can Problem Solve Program

(by the children for whom it was intended)

A Training Manual For Teachers

of 4th-6th Grade Children

Originally Developed by:

Roger P. Weissberg
Ellis L. Gesten
Nancy L. Liebenstein
Kathleen Doherty Schmid
Heidi Hutton

Modified and adapted for use with older children
in a shorter time frame by:

James A. Keyes

Introduction

Everyday, a child encounters a variety of situations in which he is forced to deal with interpersonal problems. These problems may occur at home, at play time, or in the classroom. How well a child handles these difficulties has important consequences for how he feels about himself, as well as for how others perceive him. In some ways, a child's ability to solve interpersonal problems may affect his/her overall emotional wellbeing and development. Unfortunately, many children are not effective problem solvers. Some behave impulsively. They are unaware of their feelings, don't set goals, think of alternative ways to solve their problems, or stop to consider the potential consequences of their actions.

The goal of the ICPS program is to teach children how to effectively handle interpersonal difficulties without always having to rely on adults for help. This program is cognitively based. It does not teach children what to think. Rather, it teaches them how to think when experiencing an interpersonal problem. As children learn to identify feelings, think of alternative solutions, and anticipate consequences of their behavior, they become better able to effectively resolve conflict with others.

Many research and theoretical articles about childhood development which describe the nature of healthy functioning, place good interpersonal problem solving skills high on the list of key characteristics. Although combinations of life experiences, motivation and curiosity help some people to develop excellent interpersonal problem-solving skills, others are less fortunate. As the children have been told in the program, learning ICPS skills is very much like learning math skills. Although when we were young, we had to calculate what $2 + 2$ equals, we now can process that equation automatically. While producing solutions to a seemingly simple problem seems tedious, by learning and practicing problem-solving procedures, we may better learn to solve such problems automatically and decisively with little conscious awareness of the process.

The ICPS Curriculum

The ICPS curriculum is divided into seven weekly units. The first six units (weeks) cover the six problem solving steps and related concepts (i.e., obstacles). The final week is dedicated to ending the formal program, evaluating it, and preparing the class as to how they may use the problem-solving process in the future. Because no single method is equally effective with all children, the ICPS curriculum uses a variety of teaching methods. Those include, didactic, discussions, roleplaying, some problem-solving homework, and role-playing. In this manner the children move from the more abstract (i.e., didactic) to more concrete representations of the problems they will face (in the role-plays).

Teaching ICPS in the Classroom

The manual is designed to be taught sequentially. Therefore, it is not suggested that teachers change the order or delete lessons. However, the specific scripts which are presented are by no means unchangable. In fact, it is suggested that teachers modify examples and other aspects of the lessons so that they better meet the needs of their individual classrooms. Since this manual was designed to meet the needs of children in grades 4-6, it is suggested that teachers locate the original source (listed above) if they wish to work with younger children. If teachers wish to work with older children, this program may be used by modifying the lessons and examples so they are more applicable to the specific age group with which they are to be used.

Time

ICPS lessons usually require 45 minutes to teach. Teachers report that certain lessons, which introduce new concepts or those which students become overly engaged with easily lasted 60 minutes. Certainly, if time becomes a factor in a certain lesson, it can be split and the unfinished portions completed a different day. The lessons should be scheduled two (2) times weekly (i.e., Monday and Thursday). Most lessons are written as if an aide is to be present. However, they may be adapted so they are appropriate to teachers with no help. It is recommended that even after the program is finished, problem-solving time become a permanent part of the weekly schedule. Teachers who have finished the formal program, the more cognitive section, have sometimes gone on to adapt the program to other situations. These "real-life" situations more often involve some morality or evaluative component. This program could pave the way to talking about choices involving sex, drugs/alcohol. The program has even been used as an introduction to the Catholic sacrament of Reconciliation (confession) - i.e., knowing how to make appropriate social decisions.

Finally, it is suggested that more than one teacher in a school implement this program at one time. It has been found to be helpful to discuss the lessons before teaching them, as well as to compare notes of how different children responded to different lessons. If it is possible to work with other teachers in this manner, the ongoing experience will be a more enjoyable one.

Week I Lesson 1

I. Feelings in Ourselves and Others.

Objectives:

1. To get the children involved from the very start as participants in the problem-solving program.
2. To help children to identify and become acquainted with an expanded repertoire of feelings in themselves and others.
3. Focus on the interpersonal problems that are our focus, rather than impersonal problems.

Presentation:

First, it is important to explain to the children that there are different kinds of feelings, GOOD FEELINGS and NOT SO GOOD FEELINGS. [We will use the term Not So Good rather than "bad" or "scary" feelings.] Secondly, the children must learn that everyone has different feelings, even about the same situations. Perhaps give an example of when you feel differently about the same situation as someone else.

SUMMARY OF POINTS TO ELABORATE:

- 1) Everyone has feelings.
- 2) Some feelings are Good and some are Not So Good.
- 3) All feelings are important and good to learn about.
- 4) People may feel differently about the same thing.

Continue with the class: One problem with feelings is that we can't see feelings. Feelings are inside. If feelings are inside, how can we tell how someone is feeling? (Call upon volunteers first)

1. By LOOKING at the expressions on peoples faces and watching their actions.
2. By LISTENING to what they say or how they say it.
3. By ASKING "How do you feel?"

Activity and Discussion:

Large Group:

Present an elaborated version of this situation:

FAYE WAS AT HER DESK WHEN ELLEN ENTERED
THE ROOM. ELLEN LOOKED SAD.

Ask the following questions:

Why might Ellen be upset?

How will Ellen feel?

Can you show the group how Ellen would look if she were upset?

What are several ways that Faye can deal with Ellen's feelings?

What would Faye say to show Ellen that she was concerned?

How would Faye look if she were concerned about Ellen?

How would Faye look if she were not concerned about Ellen?

What do you think happens next?

What are some other reasons for feeling upset and dejected?

Small Group Activity:

Break into small groups of apx. 6-8 children. When they are in groups, they are to read the following situation:

After school, the girls/boys are playing tetherball on the playground. Jean feels the other girls have not given her enough turns. She becomes upset, leaves the group, and sits down and cries. The other girls....

The small group then discusses the following questions writing down as many answers as possible.

How might Jean be feeling? Write down lots of ways.

What are the other girls feeling?

What do you suppose the other girls do?

How does that change Jean's feelings?

Can you think of something that the girls might say to make Jean feel better?

Can you think of something that the girls might say to make Jean feel worse?

Enrichment Ideas [for the other days of the week]

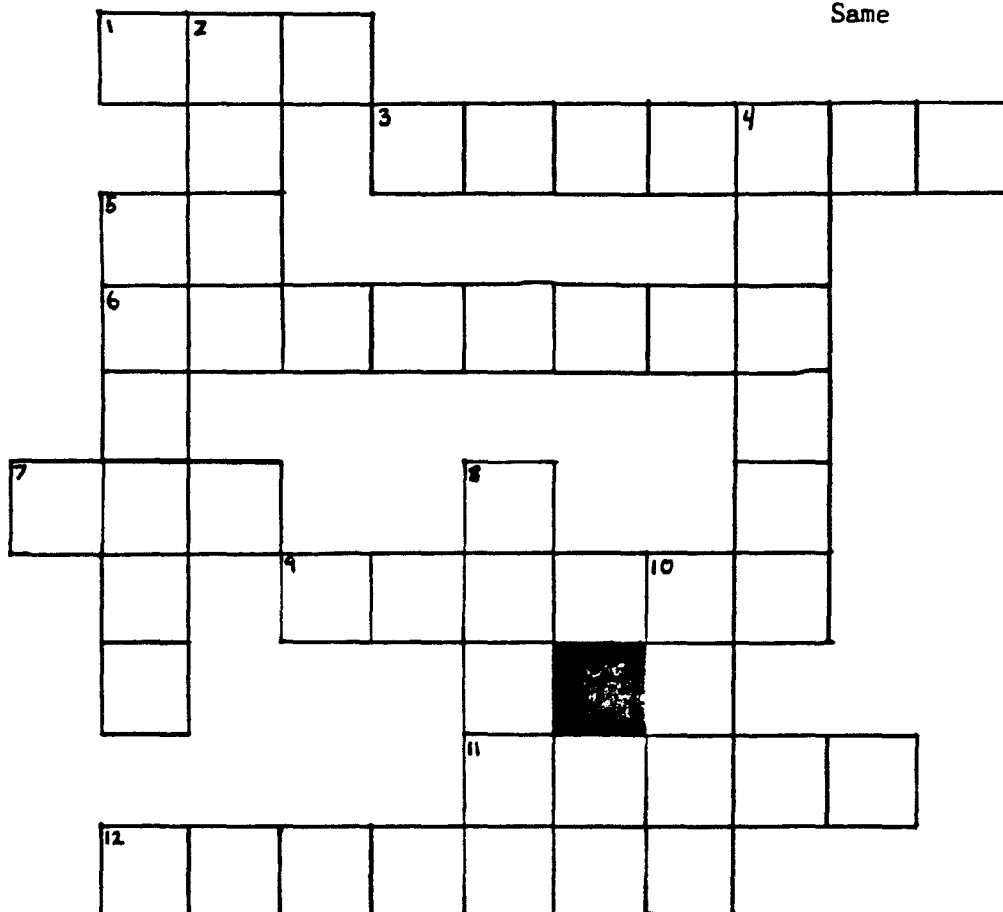
Have children look up more difficult feeling words in the dictionary.

Have children write stories about (magazine) pictures which mention a situation and its related feelings.

Word List: Afraid
Am
Angry
Ask

Change
Feelings
Good
Happy

Inside
Proud
Outside
Sad
Same



Across:

1. Three ways to tell how someone is feeling are to look, listen, and _____.
3. One way to tell what a person is feeling on the inside is to look on the _____.
5. I ___ happy when I make a new friend.
6. Everyone has _____.
7. If my best friend moved far away, I would feel _____.
9. Sometimes we feel one way, and something happens to make us feel differently. Feelings don't always stay the same, sometimes they _____.
10. Some feelings are good feelings. Others are not-so-_____ feelings.

11. When I do well on my spelling test, I feel _____.

12. If John stole my pencil, I would feel _____ at him.

Down:

2. Not everyone feels the _____ about the things that happen to them.
4. We can't see feelings because they are on the _____.
5. If you had to stay inside a scary house by yourself, you might feel _____.
8. On your birthday, you might feel _____.

Week I Lesson 2

I. Divergent Thinking

Objectives:

1. To increase the children's understanding and acceptance of (especially non-physical) individual differences.
2. To encourage the generation of new (& unique) ideas from some given information (in small and large groups).
3. Teachers are to stress creativity in the child's problem-solving attempts.
4. Increase children's expectancies that problems can often be solved as a result of their own efforts. [Especially through modeling and role-playing]

Presentation

The teacher talks with the class as a whole:

Remember in our Problem-solving unit on _____ (day of week), we talked about feelings. Everyone has feelings. They are invisible and inside. People often feel differently, even about the same things. [See if a volunteer can repeat the points about feelings.] Today, we are going to talk about thinking. Not the kind of thinking we do for a math test, or to write a paper, but the kind of thinking which involves people. For example, we can all see that my shirt is _____. That's obvious. But some of you may think blue is a great color, while others hate the color blue; others yet, don't care either way. So you see, we can all think about the same thing in a different way.

Activity and Discussion

LARGE GROUP:

Now, lets take an example. I want to see how differently people in this classroom think. Lets put up on the board all the possible ways that you could come to school. [No matter how silly or 'way out' an idea, it's written down.] Afterwards, reinforce that we can all think of different things.

If time permits, here is an activity to get everyone in the class involved. "Because we all think differently and have different feelings, we are different people/individuals. I want to take a few minutes to go around the room and have everyone tell one thing that makes you feel important, special, or good about yourself.

SMALL GROUP:

Preparation: Children will be encouraged to identify differences among people and to discuss how we can become accepting of our own and other people's differences. (i.e., Discrimination entails more than just skin color or gender. We often see instances of discrimination around our school for many reasons. Because we now know that everyone is somehow different, we can support people's individual differences, rather than make fun of them.)

In small group:

Listen to the following story and answer the questions below when your group is finished.

Every Friday, Mrs. Jones quizzes the children in her class out loud. Many of the children love this time because they prepare for it and can show how smart they are, and because Mrs. Jones gives lots of compliments to children who do well. There are other children however, who don't do so well in these pop quizzes. Some of these children study for the quizzes, some do not.

Martin always practiced hard for these days, but often had difficulty answering the questions. Sometimes it was because the questions were too hard, and sometimes it was because he just got too nervous answering in front of everybody. This particular Friday, he studied especially hard for the quiz. He was sure that he'd do well.

When Mrs. Jones called on him and asked him a question, he answered. [For example, the question could have been What color is the sun? Martin could have answered that the sun is gaseous. This is correct, and means that the sun has no color. But because they didn't study as much, the other kids didn't know that, or even let him finish.] It sounded as if he were answering a totally different question and all the kids started laughing at him. Howard who sat next to Martin said "Boy Martin, are you dumb." Several other classmates said the same thing. All of a sudden, Martin rushed out of the room. Mrs. Jones went after him. In a few minutes, she came back to the class and talked with them.

QUESTIONS:

Why do you think Martin ran out of the room?

Why did Howard say something upsetting to Martin?

Why do you think Martin got so upset?

What thoughts and feelings do you suppose the class members have now?

What do you think Mrs. Jones said to the class?

How do you suppose Mrs. Jones feels?

What will happen next? Why?

How can the class work together to solve this problem?

Week II Lesson 1

I. Problem Identification

Overview

In this unit, we begin to focus on actual problem situations: interpersonal problems. For the purpose of this program, a problem is defined as SOMETHING THAT HAPPENS BETWEEN PEOPLE THAT GIVES SOMEONE "NOT SO GOOD" OR UPSET FEELINGS. After learning this definition, children are taught the first three (of six) problem-solving steps which include:

- (1) Say exactly what the problem is [Define the Problem].
- (2) Decide on your goal [Set a Goal].
- (3) Stop to think before you act [Stop and Think].

Our purposes are to make the children more aware of the interpersonal problems that they experience daily, and to begin to teach them that they are capable of solving these difficulties on their own. Specifically, before they can progress further, children must recognize a problem situation when it occurs, identify the problem, and specify a desirable outcome.

Objectives

- (1) To introduce the definition of interpersonal problems.
- (2) To have the children list concrete specific problems which they have faced, and to identify the feelings they have when experiencing these difficulties. By listing common interpersonal problems and their related feelings, it is hoped that children's capacities to recognize and cope with them will be enhanced.
- (3) To introduce the problem-solving process by describing the first 3 steps:
 1. Say exactly what the problem is.
 2. Decide on your goal.
 3. Stop to think before you act.

II. Presentation and Procedure

A. Defining "Problem"

Class, we've already said that when people are feeling Not so Good or upset, it's because they are having some kind of problem. The problems we are talking about have some things in common: [These 3 concepts may be put on posters, but at least should be put on the board]

- (1) The problems we are talking about all have More than one person in them.

- (2) When there is a problem, someone is having strong feelings, usually not so good feelings or upset feelings.
- (3) Problems must be solved - We have to do or say something to make the problem stop or go away.

Now that we know that problems involve more than one person, and make us feel upset, or not so good, and that they must be solved; Who can say what a problem is all in one sentence? (Call on volunteer)

Good! A problem happens between people and gives someone unhappy or upset feelings. Let's say that all together (Repeat). And who remembers what we do with our problems? (volunteer) That's right. We want to solve our problems. We want to try to do something to make them stop or go away. Solving a problem helps us to stop feeling upset or start feeling okay again.

B. Brainstorming problems and their associated feelings.

Now that we know what problems are, let's see how many we can name. Remember, we are talking about problems people have with each other. Think about problems that boys and girls have at home, in our school or even in our class. We will make a big, long list of these on the board. When you think of a problem, also tell how it makes you feel. But, as we talk about the problems, don't mention anyone's name in particular.

Teacher	Each problem and its associated feelings should be listed on the board. It would help to have a few different volunteers say how each problem makes them feel. That will emphasize the point that PEOPLE MAY FEEL AND THINK DIFFERENTLY ABOUT THE SAME THING. Continue to ask the class to generate a list as long as possible (i.e. 10-20 problems). We are trying to get as many categories and types of problems listed as possible.
---------	---

The lesson may be concluded by:

- a. Reinforcing children for their productivity, and making a special point of commenting on the wide variety of problems and feelings which all of us have.
- b. Reviewing the definition of problems.

Small Groups:

The children should then break up into their small groups. The groups are to be instructed to develop a role play of someone having an interpersonal problem. Tell the children:

I WANT YOU TO PUT TOGETHER A ONE-MINUTE PLAY WHICH SHOWS SOMEONE HAVING AN INTERPERSONAL PROBLEM (LIKE WE JUST TALKED ABOUT). IT SHOULD INCLUDE ALL THREE COMPONENTS OF A PROBLEM:

- A) IT SHOULD HAPPEN BETWEEN MORE THAN ONE PERSON.
- B) IT LEADS TO UPSET FEELINGS.
- C) THINK OF AT LEAST ONE WAY TO SOLVE THE PROBLEM.

After about five minutes, the groups should be allowed to present their play (with no interruptions from the rest of the class). After each group is finished, then the class should discuss, for a couple minutes, what they saw.

When the role-plays are finished, the class should regroup for an introduction to the next section. [Although the children won't remember all of this new section, presenting it will give the class a chance to settle down and make a better transition back to the academic subjects.

C. The 1st three problem-solving steps.

Now, I want you all to pay close attention while we learn together the first three problem-solving steps.

At this point it would make things clearest if the teacher demonstrated a concrete problem that has happened in class. For example, she might walk over to a child, tell him/her to write down five things you're going to tell him/her. Then, take his/her pencil away and ask:

1. Do you have a problem? (Yes)
2. What caused the problem? (You took my pencil)
3. How does it make you feel when someone takes your pencil?
(mad, sad)
4. So, if you said exactly what the problem is, you might say, "I'm mad because you took my pencil."
5. Next, we have to decide upon our goal— Does anyone know what a goal is? (class discussion). A goal is the way you want things to end up. What is your goal? (To get the pencil back)
6. So, Step 1. is to say exactly what the problem is, and Step 2. is to decide on your goal. Who knows what comes next? (volunteers). Step 3. is one of the most important parts of problem solving— STOP TO THINK BEFORE YOU ACT! Don't be in a rush. We want to stop to think before doing anything so we won't do something in a hurry that makes the problem worse.

Large Group:

A sample problem is given. The children should identify the problem and work through the three problem solving steps in a step-by-step fashion.

Mary came up to where a group of kids were playing a softball game. The teams already had even numbers. Mary asked "Can I play?" Everybody just said "No".

What is the problem in this story?
 How does Mary know she has a problem?
 What is the First thing she does to solve her problem?
 Then, what is the Second thing she should do?
 And last?

As the group ends, say: SO CLASS, TODAY WE'VE LEARNED BOTH HOW TO IDENTIFY A PROBLEM, AND THE FIRST THREE PROBLEM SOLVING STEPS. LET'S SAY THEM TOGETHER.

A PROBLEM IS something that happens between people and gives someone upset feelings.

THE FIRST THREE PROBLEM-SOLVING STEPS ARE:

1. Define the Problem.
2. Set a goal.
3. Stop and think before you act.

One optional closing exercise would be to ask them how they feel about solving these kinds of problems. "IS IT HARD OR EASY TO SOLVE OUR PROBLEMS, CLASS?" There should be some disagreement. Briefly discuss the reasons behind each volunteer's opinion. Finally, however, the lesson should end on the upbeat optimistic note that THE PURPOSE OF THE PROBLEM-SOLVING PROGRAM IS TO MAKE US BETTER AT WORKING OUT PROBLEMS LIKE THE ONES WE'VE MENTIONED."

SPECIAL NOTES

- Some member of the teaching team should be sure to copy the problem list and associated feelings. This is extremely important since these problems will provide the basis for certain later discussion and role-playing activities.

- It is essential to maintain a focus on and to list only interpersonal or social problems. Should children suggest personal or impersonal problems, gently steer them towards interpersonal ones by saying something like: "Yes, that can sure be a problem, but right now, we're trying to think of problems between us and other people. Can you think of a problem with other people in it?"

- If a child brings up family difficulties, or problems with school personnel, they may be listed, but problems which involve peers should be emphasized more strongly. Although it's okay to discuss problems involving parents or teachers (e.g., "You are accused of starting a fight you didn't start"; "You want to get the teacher's attention but don't know how"), the primary focus should be on interpersonal peer related difficulties in school, playground, and neighborhood

- When a child offers the word "bad" as a feeling, the teacher should find out how the child means the word and rephrase it to mean unhappy, naughty, etc.— whichever definition seems to fit. The reason for discouraging the use of the phrase "bad feelings" is that we want to convey the message that it is okay to feel and express feelings of anger, sadness, etc. These are no more "bad" feelings than are feelings of joy, etc.

- For groups of children who have not been exposed to the term "solve", the synonym "fix" or other explanatory phrases may be used quite a lot at first to clarify its usage.

- In this lesson, there should be no mention of solutions. Thinking of alternative solutions is problem solving step 4 which will be taught in a future lesson. At that time, we will learn that a solution is a way to solve a problem and also a way to reach a goal. The difference between solution and goal is a subtle one which is sometimes confused. Referring again to the pencil stealing problem may make the distinction clearer. Jon's goal was to get his pencil back. There are many ways (alternative solutions) to reach this goal. One solution is to ask Betty for his pencil, another, is to hit her, and a third is to tell the teacher.

To prevent a child from offering a solution instead of a goal, it will be helpful (at first) to explain what goal means (i.e., the way you want things to end up, what you want to happen) whenever you ask a child to "decide on the goal".

- It is highly recommended that teachers allow children to specify only one goal to a particular problem. If more than one goal is mentioned, children will be confused later when they try to generate solutions to reach the goal. In later lessons, it will become clear that choosing an appropriate goal for a problem can be complex. This is because the same problem may have many goals depending upon who is making the selection or even when it is made. After children have learned about generating alternative solutions and anticipating consequences, it will be beneficial for teachers to indicate that "changing goals" is sometimes necessary. (E.G., If Betty stole Jon's pencil and refused to give it back when he asked for it, he might "change his goal" to getting another pencil.) For the present, however, limiting discussion to one goal will make it easier to understand Step 2.

Week II Lesson 2.

Objective: To review the definition of a problem and the first three problem-solving steps. Secondly, to give children a chance to practice (behaviorally) the problem solving skills which they have been discussing at a verbal (i.e., non-performance) level. Acting out the steps which have been discussed will help to consolidate the children's understanding of the concepts involved.

Presentation & Procedure:

1. OKAY, Problem-solvers, who can define a "Problem"?
 - a) A problem is something that happens between people and gives someone "not-so-good" or upset feelings.

Good. Now, just for a little practice, let's listen to the following situation and identify the problem or problems.

A CHILD WON A BOX OF CANDY AND OTHERS IN HIS CLASS WANT TO SHARE IT, BUT THE CHILD WANTS TO SHOW IT TO HIS/HER FAMILY.

What is the problem here? Who has the problem? Good.
Now is the hard part. What are the first three problem-solving steps?

- a) Define the Problem.
- b) Set a goal.
- c) Stop and think before you act.

Small Groups:

The list of problems which was generated in the last lesson should first be read to each group by the group leader. Each group will then select a problem from the list to be role-played. For the first problem selected, it will be most instructive if the group leader acts out the part of the person with the problem. One or two others should be called upon to be the "problem-causers". Before the role-play starts, the teacher should have the group carefully structure what they are going to do. A typical role-play might go as follows:

1) The leader would say to the class, IN THIS PROBLEM, I'LL BE WATCHING TELEVISION, AND _____ AND _____ WILL COME IN AND CHANGE THE CHANNEL.

2) After the "problem-causers" pretend to change the channel, the leader should look angry or upset, and say,

- a) I'M FEELING ANGRY.
- b) MY PROBLEM IS THAT THEY CHANGED THE CHANNEL WHILE I WAS WATCHING MY FAVORITE SHOW.

- c) MY GOAL IS TO GET THEM TO CHANGE IT BACK.
- d) I'M GOING TO STOP AND THINK BEFORE ACTING.

The group members who are not involved in the role-play should be instructed to pay careful attention as observers. After each role-play, they should be asked such questions as :

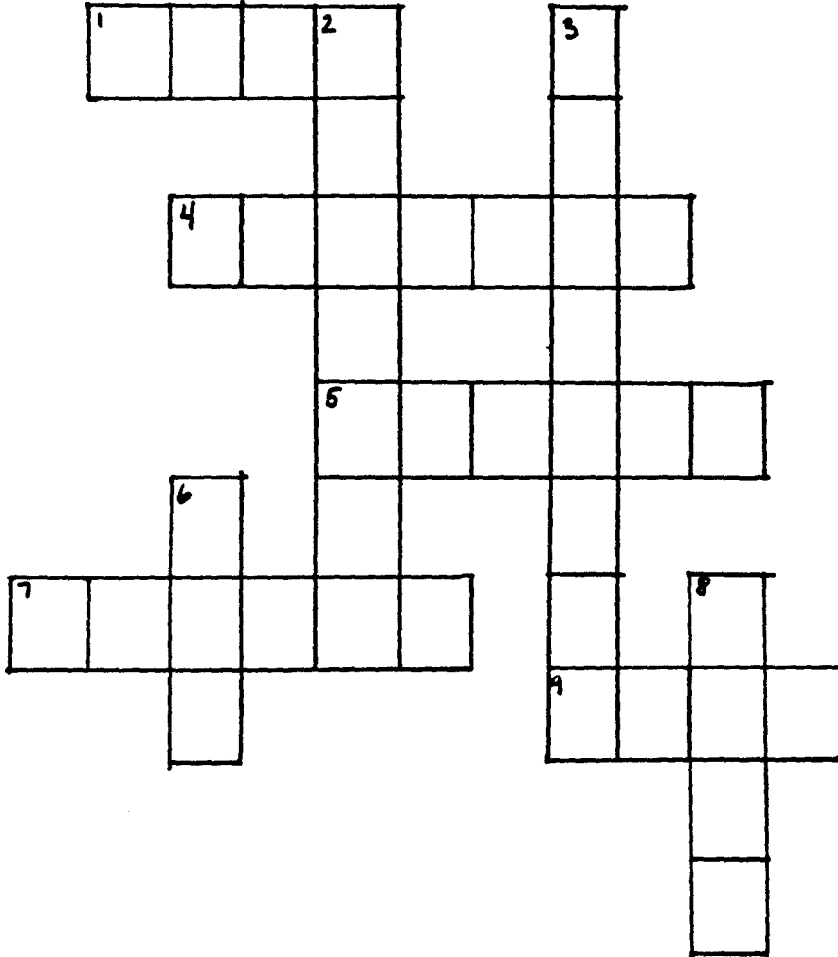
- 1) How many problem-solving steps did the actors recall? Which ones were they?
- 2) Which steps were forgotten?
- 3) How did the main character feel? How could you tell?
- 4) How would you feel if you had the problem?
- 5) What's a goal? (The way you want things to end up).
- 6) Why is it important to stop and think before acting? (So you don't act too quickly and make the problem worse).

A single problem may be acted out more than once using a different team each time, and/or other problems may also be used. After questioning the observers, it is most important to praise the children for participating regardless of the quality of their efforts. Try to find something positive about their actions and (gently) speak of those things which could have been done differently or more clearly.

Special Notes:

- Role-playing (while a lot of fun for most) may be difficult at first for some children at this age (and even for adults!). Hence, it's especially important that the experience be made as supportive, positive, and rewarding for the children as possible. This will be a particular help for subsequent lessons which depend more heavily on role-play.

Word List: Change Goal Stop
 Feelings Problem Inside
 Looking Good Say



Across:

1. A _____ is how we want things to end up.
4. A _____ happens between two or more people, and gives someone upset feelings.
5. You can't see a feeling; it's on the _____.
7. Our feelings aren't always the same. Sometimes they _____.
8. Sometimes we have good feelings. When we have a problem, we have not-so-_____ feelings.

9. Before we act, it is important to _____ and think.

Down:

2. Three ways to tell how someone is feeling are by _____, listening and asking.
3. Everyone has _____.
6. The first problem solving step says to _____ what the problem is.

Week III Lesson 1
Generation of Alternatives

Overview: The primary objective of this unit is that the child generate several alternative solutions to a problematic situation. Here the divergent thinking and brainstorming techniques are applied to social problems. The rationale is that brainstorming many possible alternative solutions will increase the likelihood that the most effective solution will be available to the child. The teacher defers judgement of the solutions and encourages the children to generate as many solutions as possible. The goal here is to establish an orientation that looking for alternatives will maximize problem-solving effectiveness. This is one of the most important units of the curriculum and one that has demonstrated the most effective results.

- Summarily, 1. There are lots of different ways to solve a problem.
2. It is useful to think of as many solutions as possible (generating alternative solutions increases problem-solving efficiency).
3. It is important to be persistent in generating alternatives.

Objectives:

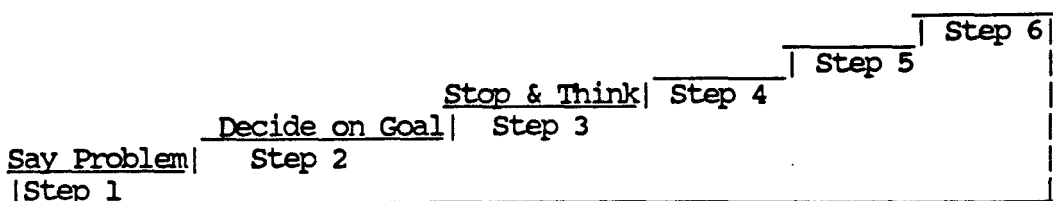
1. To review the first three problem-solving steps.
2. To define "Solution" (or alternatives)
3. To introduce problem-solving step #4: THINK OF AS MANY SOLUTIONS AS YOU CAN.
4. To encourage children to offer as many solutions as possible to a specific problem.

Presentation and Procedure:

Before introducing the 4th problem-solving step, it is important that the children understand the important concepts we have discussed: feelings, problems, and also the first three problem-solving steps.

CLASS, THE FIRST THING WE'RE GOING TO DO TODAY, IS TO REVIEW THE FIRST THREE PROBLEM-SOLVING STEPS.

A useful tool to introduce at this point is the problem-solving staircase: (on the board)



BOYS AND GIRLS, IN A MOMENT WE WILL PLAY A GAME CALLED "WHAT ELSE?" WE'LL ALSO BE TALKING ABOUT PROBLEM SOLVING STEP #4 WHICH TELLS US WHAT TO DO AFTER WE'VE STATED OUR PROBLEM AND GOAL, AND STOPPED TO THINK. BUT FIRST, I WANT TO TEACH YOU A NEW WORD.

While writing SOLUTION on the board, ask
DOES ANYONE KNOW WHAT A SOLUTION IS?

After a few volunteers respond, the teacher may clarify their answers by holding up the card defining "solution" and saying:
A SOLUTION IS A WAY TO SOLVE OR FIX A PROBLEM.

Introducing Problem-solving step #4 may begin by asking:
CLASS, HOW MANY WAYS ARE THERE TO SOLVE A PROBLEM—
ONE, OR MORE THAN ONE?

Then have the class read the second solution concept card.
THERE ARE LOTS OF DIFFERENT WAYS TO SOLVE A PROBLEM.

NOW WE'RE READY FOR PROBLEM-SOLVING STEP NUMBER 4!

Write the following on the board or a poster to be read by the class:
THINK OF AS MANY SOLUTIONS AS YOU CAN.

THIS IS THE FOURTH PROBLEM-SOLVING RULE ON OUR P-S STAIRCASE.

Let's look at an example:

This is Sarah and some of the children in her class.
Sarah just moved into town. She wants to be friends
with the other girls and boys, but she is lonely and
a little shy.

Questions:

1. How do you think Sarah feels? What are your clues?
2. What is causing the problem? What would Sarah say?
3. What's Sarah's goal? (Write this on the board).
4. What should Sarah do next? (stop & think).

"Now, let's help Sarah by making up lots of different ways for her to make friends with the other children. Remember— to be a good problem-solver, it's very important to think of lots of different solutions to solve a problem. Keep asking yourself "WHAT ELSE COULD SARAH DO TO SOLVE HER PROBLEM?"

It may be helpful to ask leading questions like, "What's in Sarah's hand? Could that help her? It's important in this exercise that children learn to be persistent in their problem-solving efforts, even when it becomes difficult.

After there have been a number of solutions generated, have the children try a second example, leaving the children more on their own to follow through and keep working.

THIS IS FRANK. HE SURE LOOKS WORRIED. THAT BOY, JIM, TOLD HIM THAT HE WOULD BEAT HIM UP UNLESS FRANK LEFT THE PLAYGROUND IN TWO MINUTES. FRANK WAS HAVING A GOOD TIME, AND DIDN'T WANT TO LEAVE. SO FRANK WAS REALLY HAVING A PROBLEM.

QUESTIONS:

1. How do you think Frank feels? What are your clues?
2. What is the problem here? What would Frank say his problem is?
3. What is Frank's goal?
4. Before Frank acts, what should he do?
5. Why is it important to Stop and Think before we Act?
 1. So we don't make the problem worse.
 2. So we have time to think of lots of solutions.

To elicit alternative solutions ask:

1. What can Frank do to SOLVE HIS PROBLEM and reach his goal?
2. What else could Frank do?
3. What else could Frank say to Jim?
4. What could Frank do to stop Jim from beating him up?
5. Could Frank get help from someone?
6. What would you do if you were Frank?

Using whatever format you prefer, conclude the lesson by reviewing the new points about generating alternative solutions:

1. A SOLUTION IS A WAY TO SOLVE A PROBLEM.
2. THERE ARE LOTS OF DIFFERENT WAYS TO SOLVE A PROBLEM.
3. STEP 4 IS— THINK OF AS MANY SOLUTIONS AS YOU CAN.

WE CAN LEARN NEW WAYS TO SOLVE PROBLEMS BY: (1) LISTENING TO THE IDEAS OF OTHERS, AND (2) BY WATCHING WHAT OTHER CHILDREN DO WHEN THEY HAVE PROBLEMS. SOME CHILDREN THOUGHT OF NEW AND DIFFERENT SOLUTIONS TO FRANK'S PROBLEM THAT OTHERS MAY NOT HAVE THOUGHT ABOUT. BY WATCHING AND LISTENING TO WHAT OTHER PEOPLE DO, WE CAN LEARN TO USE MORE SOLUTIONS AND BE BETTER PROBLEM SOLVERS OURSELVES.

Special Notes:

- The aim of these exercises is to get the children to think of a large quantity of different solutions. Therefore do not evaluate the practicality, moral quality or effectiveness of any solution because this may make the children hesitant to offer their ideas. Children will learn to judge the quality of their solutions in the Consequences unit. For the present, it is crucial not to judge the content of their ideas (i.e., Don't say, "That's a good (or not such a good) idea." Instead comment, "That's another solution," or "That's a different idea"). Withholding criticism is a difficult task for all of us! Therefore, it will be important to prepare

during our training sessions for conducting this exercise in a non-judgmental manner.

Although it is important to accept the children's responses without judging their quality, certain types of structuring comments may be beneficial. For example, the teacher should ask children to expand on solutions which seem irrelevant ("How would that help Sarah solve her problem?") or vague (e.g., if a child says "Make him happy", ask, "How can she make him happy?"). Also, if children offer three repetitive variations of the same solution, classify them and ask what else might solve the problem (e.g., "Giving ice cream, giving a toy, and giving candy are all giving something. Can anyone think of an idea that's different from giving something?") Additional variations after the third one should not be recorded on paper.

- If teachers are concerned that the non-judgmental teaching approach in this exercise allows and encourages children to generate lots of aggressive solutions to certain problems, it is all right to ask children to suggest only non-aggressive solutions after the first one has been offered. When limiting this type of solution, however, non-critical comments such as "We've already had a fighting solution. Can someone think of something besides fighting?" are preferable to value-laden judgments (e.g., "Fighting is not nice to do. Who can tell me a different way?").

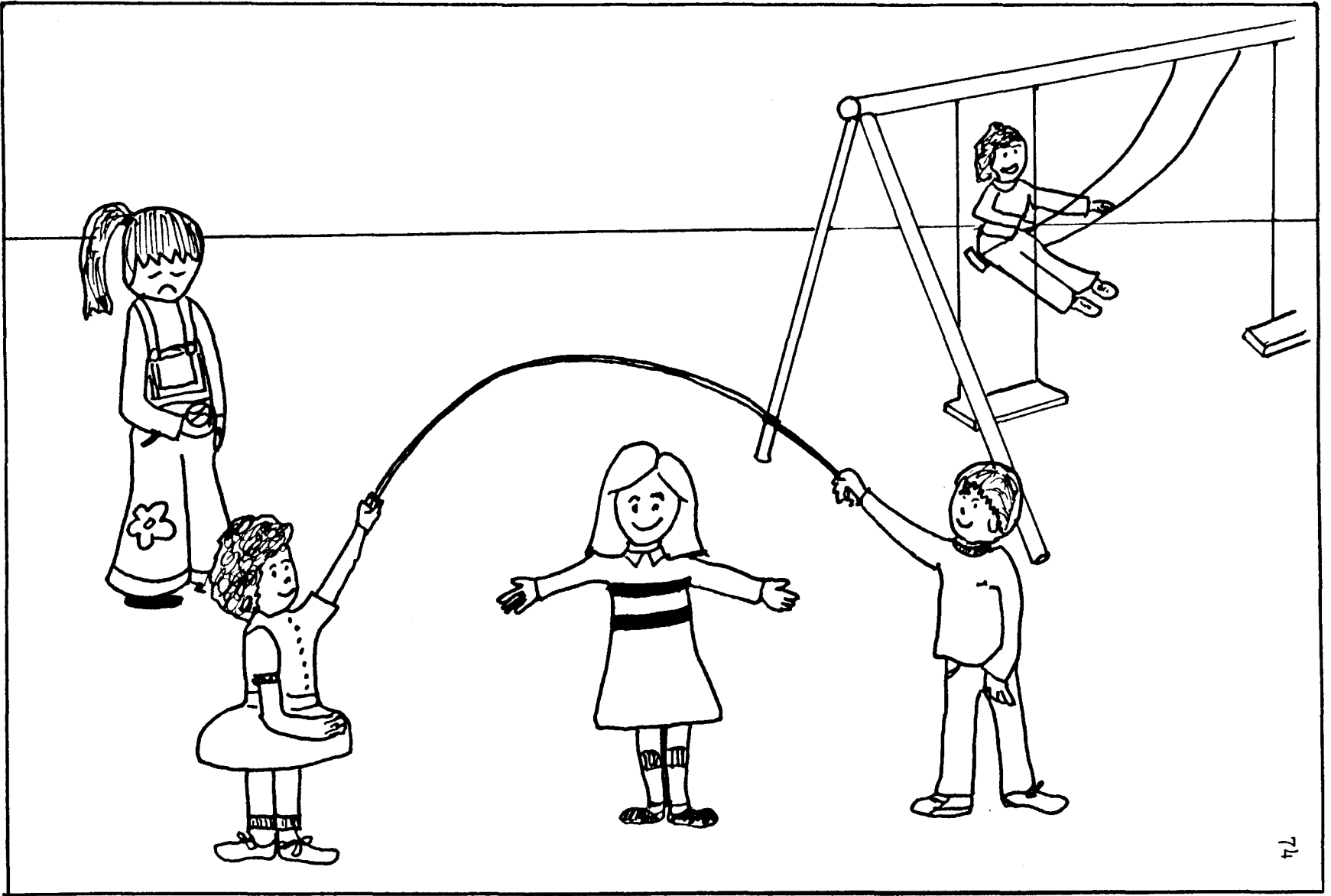
Recognizing that there are certain problems for which aggressive solutions may well be the best, the goal is not to remove fighting from the children's solutions repertoire. Rather, it is to make them aware that there are many alternative reactions which may be superior to fighting for resolving certain situations.

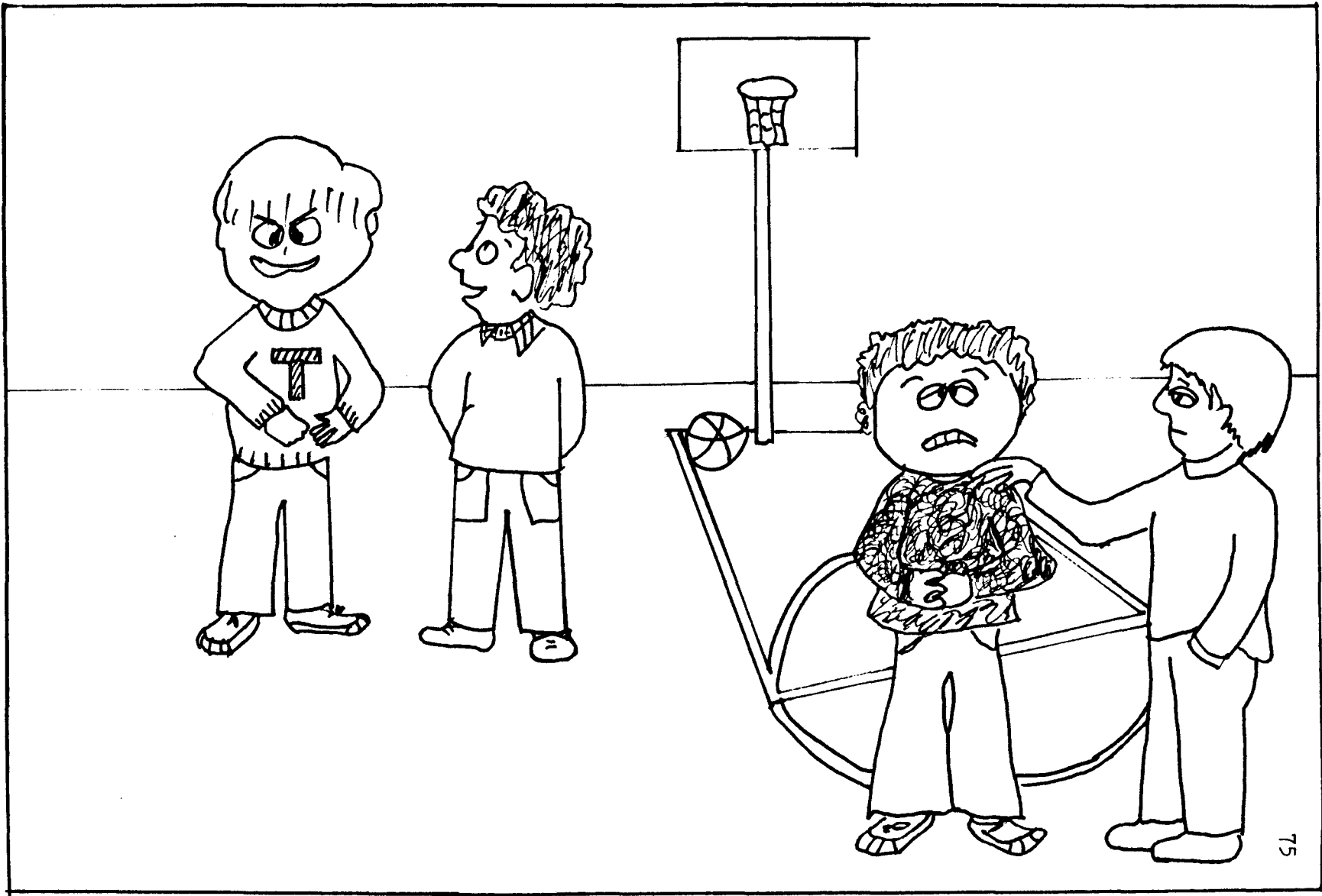
- If a child jumps the gun and offers a consequence to a solution, simply accept it, do not discourage it, then continue to ask for solutions.

- It's important that the goal be kept in mind when generating solutions. Some solutions may be appropriate to the problem but not reach the goal. When that happens, teachers can acknowledge the child's thought but restructure his comments by saying something like, "But will that solution reach our goal?" or "What's our goal?" The latter comment may encourage the child to consider the appropriateness of the solution on his/her own.

Enrichment Ideas

- Role-playing these problem situations may enliven discussion and make the problem-solving process more relevant to children. Try and encourage the same processes during other periods and during other parts of the day, especially when problems arise in class!





Week III Lesson 2
Solutions Competition

Objective: To provide children with another opportunity to practice and observe different solutions to a problem situation, making the process of generating solutions more concrete and realistic.

Presentation and Procedure:

Review of previous Problem-solving concepts.

CLASS, TODAY WE'RE GOING TO HAVE A CONTEST IN OUR ICPS CLASS. HOWEVER, BEFORE BEGINNING, LET'S QUICKLY REVIEW WHAT WE'VE ALREADY LEARNED. A FEW WEEKS AGO, WE BEGAN OUR PROBLEM-SOLVING PROGRAM BY LEARNING ABOUT FEELINGS. LET'S REVIEW WHAT WE LEARNED ABOUT FEELINGS. [Using volunteers, review the following concepts.]

1. Feelings are inside.
2. We can tell how a person is feeling by
 - a) Looking, b) Listening, and c) asking.
3. Everyone has feelings.
4. Some feelings are good and some are not-so-good.
5. People feel differently about the same thing.
6. Feelings change.

NEXT, WE LEARNED ABOUT PROBLEMS.

1. Problems happen between people.
2. Someone has upset feelings.
3. Problems must be solved.
4. A problem happens between people and gives someone an upset feeling.

LATELY, WE'VE BEEN LEARNING ABOUT SOLUTIONS.

1. A solution is a way to solve a problem.
2. There are lots of different ways to solve a problem.

ALSO, WE'VE LEARNED FOUR PROBLEM-SOLVING STEPS SO FAR:

1. Define the Problem.
2. Set a Goal.
3. Stop and think.
4. Think of as many solutions as you can.

To aid in understanding of these concepts, also review the following points:

1. Why is it important to STOP AND THINK before acting?
 - a) If we act too quickly, we might make the problem worse.
 - b) We need time to think of lots of solutions.

2. Why is thinking of lots of solutions important?
 - a) There's usually more than one good way to solve a problem.
 - b) If our first solution doesn't solve the problem, it's important to have other ideas to try.

Part 2. Objectives:

1. To reemphasize that there are many different ways to solve a problem.
2. To create an atmosphere of excitement in which children will be motivated to think of lots of solutions under the pressure of competition.

Presentation and Procedure:

Before the lesson begins, the teacher should have divided the class into three teams. For this activity, the groups should be different than those which were established for the role-playing exercises. Ideally, groups should reflect nearly equal ability levels. In other words, children who appear to be the best "solution generators" should be distributed evenly across groups.

After directing the children to their respective team areas, the teacher should introduce the activity by saying:

WE ARE GOING TO HAVE A CONTEST. I AM GOING TO TELL YOU ABOUT THREE DIFFERENT PROBLEMS, AND I WANT TO SEE HOW MANY DIFFERENT WAYS EACH TEAM CAN THINK OF TO SOLVE THEM. FOR EACH PROBLEM, YOU WILL HAVE THREE MINUTES TO THINK OF AS MANY DIFFERENT SOLUTIONS AS YOU CAN. AT THE END OF THE GAME WE WILL SEE WHICH TEAM WINS BY THINKING OF THE MOST SOLUTIONS. THERE WILL ALSO BE A SPECIAL "PROBLEM-SOLVING AWARD."

Before starting the competition the teacher should review the following two solution concepts: 1) There are lots of different ways to solve a problem, 2) It is important to think of as many ways as you can to solve a problem. Next, read the first problem. Children should be reminded to listen carefully since their team will have only three minutes to name as many different solutions as they can. They should also be told to be as quiet as possible while generating solutions so the other teams don't overhear their ideas. This suggestion helps to keep order in the classroom as well.

Problem Story #1

IT'S LUNCH TIME. ELLEN JUST WARNED JIM TO WATCH OUT. SHE SAID THAT PAT WAS GOING TO WAIT OUTSIDE THE FRONT DOOR AFTER SCHOOL AND THROW SNOWBALLS AT HIM. JIM FEELS WORRIED. HIS GOAL IS TO THINK OF AS MANY SOLUTIONS AS HE CAN. JIM STOPS TO THINK OF AS MANY SOLUTIONS AS HE CAN. WHAT CAN HE DO OR SAY TO SOLVE HIS PROBLEM?

Problem Story #2

BARBARA IS WORKING ON HER WORKBOOK. SHE SEES SANDY LOOKING AT HER ANSWERS, TRYING TO COPY HER WORK. BARBARA FEELS ANGRY. HER GOAL IS TO MAKE SANDY STOP COPYING. BARBARA STOPS TO THINK OF AS MANY SOLUTIONS AS SHE CAN. WHAT CAN SHE DO OR SAY TO SOLVE HER PROBLEM?

Problem Story #3

DAVE IS UPSET BECAUSE EDDIE ALWAYS TEASES HIM AND CALLS HIM NAMES. HIS GOAL IS TO GET EDDIE TO STOP MAKING FUN OF HIM. DAVE STOPS TO THINK OF AS MANY SOLUTIONS AS HE CAN. WHAT COULD HE DO OR SAY TO SOLVE HIS PROBLEM?

The teacher and/or group leader will write down the different solutions that are mentioned. A competitive and cooperative environment should be encouraged by: 1) Urging your team to think of more ways to solve the problem than the others; and 2) trying to get each team member to offer ideas. No prompts should be given. Also, no more than 3 variations on the same solution theme should be accepted.

After the three minute time period for a problem has expired, the teacher and aides should read to the class a few of the solutions which their team generated. After the solutions of the second and third teams are reported, the teacher should point out that some of the ideas presented across teams are similar while others are different.

After each problem, the total number of solutions offered by each team should be written on the board. Excitement about generating more solutions can be built up by comparing teams (e.g., "Team 1 needs to think of two extra solutions to the next problem to catch up.")

After the third problem, as the final totals are tabulated, all children should be congratulated for their efforts and the winning team announced. At this time, everyone will be presented with a problem-solving award for thinking of so many different solutions. Members of the first, second, and third place teams will receive awards with blue, green, and red stars respectively. Each child's certificate should have his/her name printed on it, and should be signed by the teacher and assistant.

Special Notes

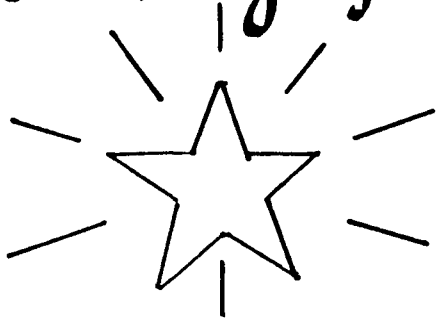
- Although this activity is among the most enjoyable problem-solving exercises, some children may feel upset if their team loses at such an exciting event. One approach to make children feel better at the end of the contest is to have teams applaud for each other for thinking of so many solutions.

This is to certify

is a

Champion Problem Solver

for thinking of so many different solutions



Week IV Lesson 1
Consideration of Consequences

Overview

So far, the children in the problem-solving program have learned a good deal about interpersonal problems and four steps which can be used in solving these problems. In this unit, two final steps are presented, which complete the problem-solving process.

The goal of Week III was to encourage children to be able to generate a large number of possible solutions when confronted with a problem. So far, the emphasis has been on quantity rather than the actual quality or practicality of the solutions. Given a range of potential options to solve a problem, however, the choice of a particular solution depends largely on anticipating the consequences of trying it out. The purpose of this unit, therefore, will be to teach children to pair potential solutions with consequences in order to decide which option should be attempted. Towards this end, Problem-solving step #5 states THINK AHEAD TO WHAT MIGHT HAPPEN NEXT and Problem-solving step #6 states WHEN YOU HAVE A REALLY GOOD SOLUTION, TRY IT!

The actual teaching of consequential thinking is couched in learning to anticipate and evaluate the results of solutions. Anticipation involves thinking ahead to what might happen next if a solution is tried. Sometimes, that requires focusing on immediate short-term and potential long-term consequences (e.g., What might happen right away? What might happen later?). Evaluation of consequences may involve consideration of both personal (Does the solution mostly lead to things I want to happen?) and social (How might other people feel?) outcomes of a solution. Accordingly, teachers might use the following dialoguing technique to train consequential thinking:

- Jon: Mrs. Jones, Bill took my toy and I want it back.
 Teacher: What could you do to get it?
 Jon: I could hit him.
 Teacher: What might happen if you did that?
 Jon: I'd get my toy back.
 Teacher: What else might happen if you hit Bill in class?
 Jon: He'd get mad at me and you'd keep me after school.
 Teacher: Would you want those things to happen?
 Jon: No.
 Teacher: Then, is hitting a good solution?
 Jon: No, but I want my toy.
 Teacher: Can you think of another solution?
 Jon: I could tell him I want it now, and he could use it later.
 Teacher: What would happen if you tried that?
 Jon: He'd probably give it to me.

Teacher: Would you want that to happen?

Jon: Sure.

Teacher: It sounds like you thought of a good solution!

Thus, the three basic questions used to teach consequential thinking are:

1. WHAT MIGHT HAPPEN NEXT?
2. WOULD YOU WANT THIS TO HAPPEN?
3. IS THE SOLUTION A GOOD ONE?

However, when a child fails to think of relevant consequences it may be necessary to ask additional questions. For example, it's appropriate to ask a child "Would anyone be unhappy with this solution?" or "How would others feel?" if he/she has only thought of the consequences that an act has for him/herself. For the child who thinks of aggressive solutions, it might be useful to focus the child on long-term results. For example if a child decided that he would hit a classmate for cutting in line, the short-term result may be that the other child will give him his place back. The long range consequences, however, may be that the child is sent to the principal's office or beat up after school. Common follow-up questions to prompt more effective consequential thinking include:

- 1) WOULD ANYONE BE UNHAPPY WITH THE SOLUTION?
- 2) WOULD YOU REACH YOUR GOAL?
- 3) IS THERE A BETTER WAY TO SOLVE THE PROBLEM?

One word of warning! Consequential thinking is a complex cognitive process and will be difficult to teach to some. In practice, teachers and aides will have to be more active and flexible in teaching these concepts because the type of questions asked to evaluate consequences will often be determined by both the nature of the specific problem situation, and also the children's ability to understand the material.

One final and important note. The orientation of this unit is clearly more evaluative than that of the alternative solutions unit. Whereas children were previously encouraged to be productive, even outlandish, in their solutions, here children are taught to be more focused and realistic. Towards this end, children will be asked to offer only the consequence they consider most likely for each solution they generate. The purpose in limiting the number of consequences is two-fold. First, the goal of the unit is to teach children that "good" solutions are a product of anticipation and evaluation, and not merely that different solutions have different consequences. Secondly, generating consequences in as great a quantity as solutions can be so confusing as to hinder the child's ability to select any solution. Thus, focusing on the most likely consequence should reduce the probability that children will offer improbable outcomes and foster selection of solutions that will lead to favorable results.

Objectives

1. To review previously used Problem-solving concepts.
2. To teach children to think ahead to what might happen next in order to judge the effectiveness of solutions.
3. To promote pairing of solutions and consequences.

Presentation and Procedure

Display the poster and say:

CLASS, HERE WE SEE A PROBLEM PETER WAS HAVING. HE BORROWED TIM'S PLANE AND BROKE IT WHILE HE WAS PLAYING WITH IT. LET'S TALK ABOUT WHAT PETER SHOULD DO TO SOLVE HIS PROBLEM.

1. FIRST, HOW DO YOU THINK PETER FEELS?
2. HOW CAN YOU TELL HOW HE FEELS?
3. WHY IS PETER UPSET?
4. WHAT STEPS WOULD PETER FOLLOW IF HE WERE A GOOD PROBLEM-SOLVER?
 - a) SAY WHAT HIS PROBLEM IS. (I'm upset because I borrowed Tim's plane and broke it) (Write this on the board.)
 - b) DECIDE ON HIS GOAL. (My goal is to do something so Tim won't be so angry with me.)
 - c) STOP AND THINK BEFORE HE ACTS. Why is it important to Stop and think? (So you can think of lots of solutions and won't make the problem worse.)
 - d) THINK OF AS MANY SOLUTIONS AS HE CAN. [Have the children name this step but don't let them offer alternatives yet.

IN A MOMENT WE'LL TALK ABOUT SOME SOLUTIONS THAT PETER MIGHT TRY TO SOLVE HIS PROBLEM. BUT FIRST, I WANT TO TEACH YOU ABOUT PROBLEM-SOLVING STEP #5. On the board write: THINK AHEAD TO WHAT MIGHT HAPPEN NEXT.

THINKING AHEAD TO WHAT MIGHT HAPPEN NEXT AFTER YOU TRY A SOLUTION IS VERY IMPORTANT. LET'S FIND OUT WHY.

The teacher should write SOLUTION and WHAT MIGHT HAPPEN NEXT? next to each other on the board drawing a vertical line between them. After writing "BLAME SOMEONE ELSE" under the SOLUTIONS heading, she should refer to the poster and say:

SUPPOSE PETER DECIDED THAT HIS SOLUTION WOULD BE TO SAY SOMEONE ELSE BROKE THE PLANE. WHAT MIGHT HAPPEN NEXT IF HE TRIED THAT? TELL ME WHAT YOU THINK WOULD REALLY HAPPEN.

Call on a volunteer and only accept and write his/her response in the WHAT MIGHT HAPPEN NEXT column if s/he offers a realistic consequence (e.g., The other person might deny it and get mad at

Peter.) If the child offers an outlandish consequence— a possibility because of the recent training in alternative solution thinking— the teacher might probe for a more appropriate answer by asking "What do you really think would happen? For a response showing a deficit in consequential thinking (e.g., Peter wouldn't get in trouble.) the teacher might shape more accurate responding by asking follow-up questions such as:

1. Would anyone be unhappy with the solution?
2. Would Peter reach his goal?
3. What might happen later on?

After a realistic consequence has been written on the board, the teacher should follow the initial question (i.e., What might happen next?) by asking:

1. WOULD PETER WANT THAT TO HAPPEN? (No)
2. IS THE SOLUTION A GOOD ONE? (NO— draw a (0) next to the consequence.)

To clarify the process of consequential thinking that has been demonstrated, the teacher might say something like:

THAT'S HOW STEP #5 WILL HELP US TO DECIDE IF THE SOLUTIONS WE THINK OF ARE GOOD ONES. BEFORE TRYING A SOLUTION, THINK AHEAD TO WHAT MIGHT HAPPEN NEXT.

LET'S THINK OF OTHER SOLUTIONS AND DECIDE IF THEY ARE GOOD OR NOT.

Call on volunteers to offer other solutions and write them on the board. As each child generates an alternative, have him/her anticipate and evaluate the consequences by asking:

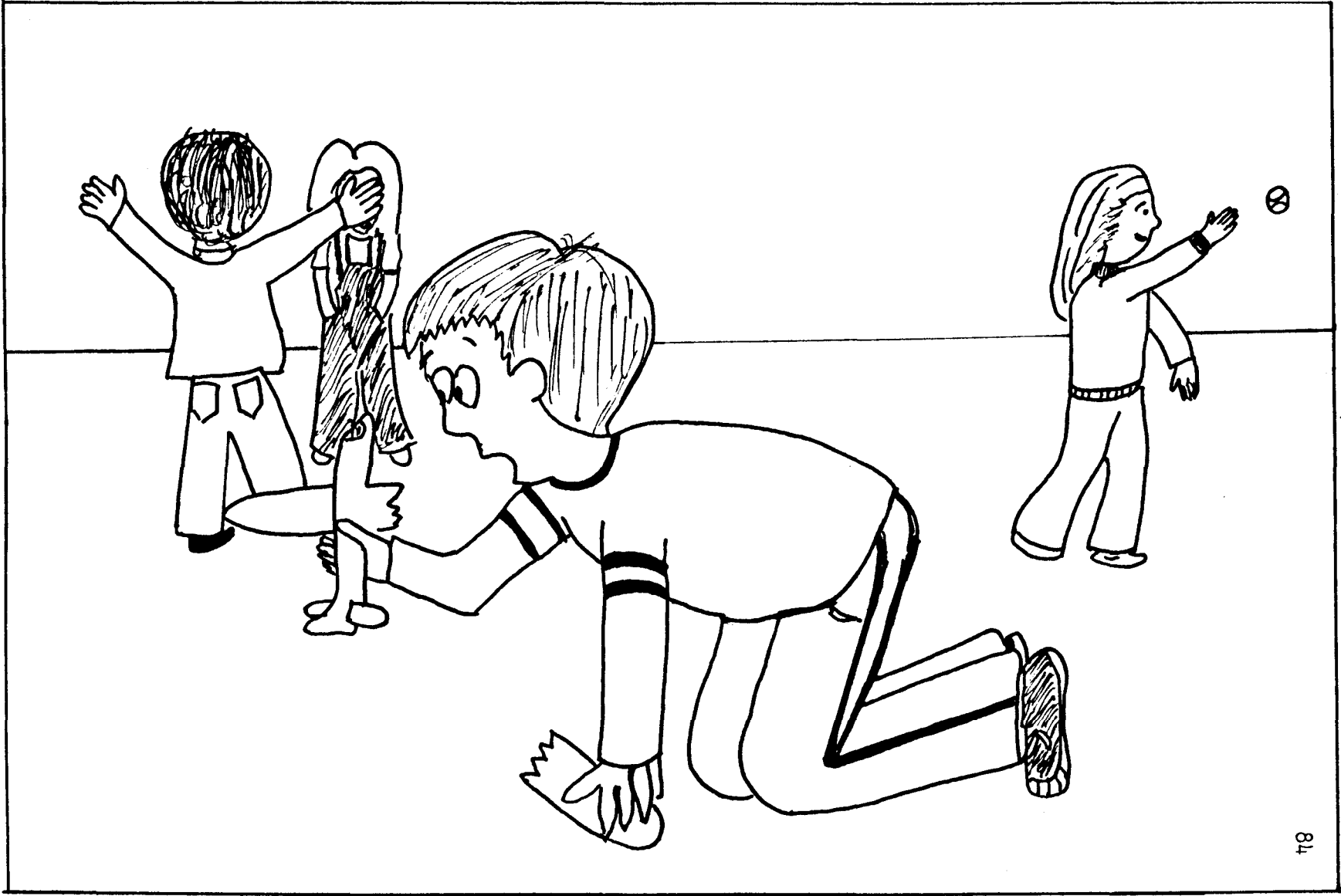
1. What might happen next?
2. Would Peter want that to happen?
3. Is the solution a good one? (Draw a (0) or (0) for good and bad solutions respectively. If the solution leads to mixed consequences, draw a (0).)

OKAY CLASS, LET'S REVIEW. HOW CAN YOU TELL IF A SOLUTION IS A GOOD ONE?

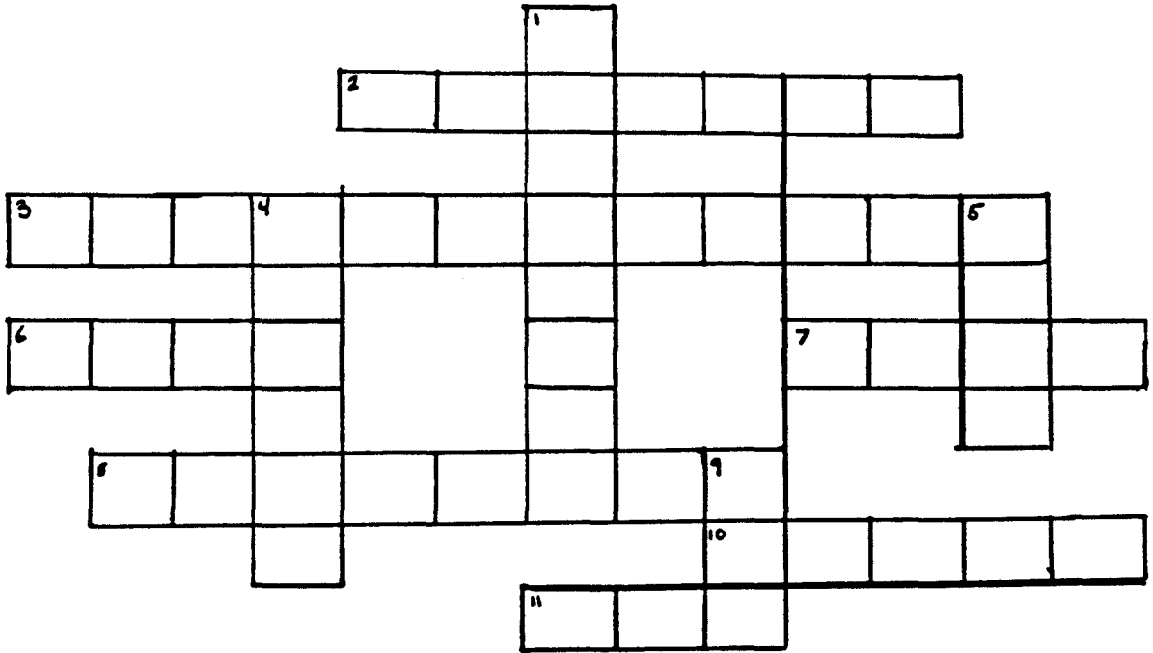
Basically, the answer is:

1. By thinking ahead to what might happen next if you really tried it.
2. By deciding if the solution will lead to what you want to happen.

LET'S SAY ALL FIVE PROBLEM-SOLVING STEPS TOGETHER.



Word List:	Ahead	Good	Solved
	Consequences	Problem	Stop
	Feelings	Say	Try
	Goal	Solution	

Across:

2. Something that happens between people that gives an upset feeling is called a _____.
3. Things that might happen next are called _____.
6. A _____ is the way we want things to end up.
7. Thinking ahead to what might happen next, and deciding if we want these things to happen, helps us decide if our solution is a _____ one or not so good one.
10. In order to decide if a solution is a good one, we think _____ to see if we want these things to happen.

11. When you have a good solution, _____ it.

Down:

1. Step #4 tells us to think of more than one _____.
4. A problem must be _____. The ICPS program helps us to do this.
5. It is important to _____ and think before we act so we don't make the problem worse.
9. Step # 1 tells us to _____ exactly what the problem is.

Week IV Lesson 2
Defining and Practicing Consequences

Objectives:

1. To provide a concrete example of how step #5 may be implemented.
2. To formally introduce the word CONSEQUENCE.
3. To practice the pairing of solutions with consequences.

Presentation and Procedure:

LAST TIME WE LEARNED A BRAND NEW PROBLEM SOLVING STEP. WHO CAN TELL ME WHAT THAT WAS? (Call on a volunteer to say "Think of what might happen next.") GOOD! NOW WE'RE GOING TO TALK ABOUT A PROBLEM AND USE STEP NUMBER FIVE. LET'S PRETEND THAT I WAS BUSY TEACHING A READING GROUP AND SOMEONE NEEDED HELP WITH A MATH PROBLEM. THEIR GOAL WAS TO GET HELP AS SOON AS POSSIBLE, BUT THEY FORGOT TO STOP AND THINK. SO, THEY TRIED THE FIRST SOLUTION THAT CAME TO MIND WHICH WAS TO YELL "MS. _____, COME OVER HERE RIGHT NOW!" LET'S USE STEP #5 THE WAY WE DID LAST TIME TO DECIDE IF THIS IS A GOOD SOLUTION. [Teachers can use another problem which might be more relevant to their classroom situation]

It would help structure the exercise better if the problem and goal were written on the board. In addition, the two columns SOLUTIONS and WHAT MIGHT HAPPEN NEXT should be written on the board. The teacher may continue the lesson by calling on a volunteer to name the solution tried by the person in the story. After recording it in the SOLUTIONS column, the following questions should be asked:

1. What might happen next? (record realistic consequences)
 - a. How might the teacher (I) feel? (angry)
 - b. What might the teacher (I) do or say? (Ignore the student, keep him/her after school, etc.).
2. Would we want that to happen? (No — Draw a "No" next to the consequence.
3. Have the children vote on whether or not the solution is a good one.

Next introduce the word CONSEQUENCES by writing it on the board next to the WHAT MIGHT HAPPEN NEXT column. Explain that ALL SOLUTIONS HAVE CONSEQUENCES OR THINGS THAT HAPPEN NEXT. YELLING TO THE TEACHER FOR HELP WAS A POOR SOLUTION BECAUSE IT LED TO BAD CONSEQUENCES. From now on use WHAT MIGHT HAPPEN NEXT and CONSEQUENCES interchangeably to familiarize students with the new term.

Next, have children generate their own solutions and immediately ask the volunteer:

1. What might happen next if s/he tried that?
2. Would s/he want those things to happen?
3. Would s/he think the solution was a good one?"

Write solutions on one half of the board and realistic consequences on the other half. When children offer their consequences, it will be helpful to point out, "SO THAT SOLUTION MIGHT LEAD TO GOOD (OR BAD) CONSEQUENCES" and to draw a "☺" or a "☹".

Now the children should be divided into their small groups for more closely supervised discussion of the problem solving process. Have one volunteer name a problem and goal. Call on others to stop and think of different solutions and consequences. Record the children's comments as needed, to simplify and concretize the discussion.

Children should be asked to state whether or not their solutions are good and to explain why. Although the major questions to structure consequential thinking are:

1. WHAT MIGHT HAPPEN NEXT?
2. WOULD YOU WANT THIS TO HAPPEN?
3. IS THE SOLUTION A GOOD ONE?

teachers should ask more follow-up questions to develop children's abilities further. (Refer above for exemplary questions and problem-solving dialogue.)

Repeat this exercise using two or three different problems. Conclude the exercise in small groups by reviewing HOW CAN YOU TELL IF A SOLUTION IS A GOOD ONE? (By thinking ahead to likely consequences and deciding if you want those things to happen.) WHAT'S THE ONE WORD FOR 'WHAT MIGHT HAPPEN NEXT?' (CONSEQUENCES).

Special Notes

- Children who offer poorly thought out consequences are sometimes made defensive by follow-up questions. For example, a child who wants a toy from another may propose grabbing it.

"Dialoguing" may lead to the following exchange:

TEACHER: What might happen next if you grabbed the toy?

JON: I'd get to play with it.

TEACHER: Would anyone be unhappy with that solution?

JON: I don't care.

At such times, it may be better to call on others to share their views rather than questioning the first child further.

- Another question that may be used to promote effective consequential thinking is "WOULD THE SOLUTION HELP YOU REACH YOUR GOAL?" That question may be used with a child who offers solutions that are ineffective because they don't reach the goal s/he initially set.

Solutions Decision Game
(For In-Between Lessons)

Pass out the Solutions Decisions sheet (or put it on the board).

TODAY, WE'RE GOING TO PLAY A GAME. I WANT YOU ALL TO LISTEN CAREFULLY AND FOLLOW ALONG WHILE WE READ A STORY ABOUT A BOY NAMED CHARLIE.

Charlie promised to help his younger brother with an art project. Charlie's friend called him on Friday and asked him if he wanted to go to the circus on Saturday afternoon. Charlie really wanted to go to the circus but he had already promised his brother that he would help him with the art project on Saturday afternoon. These are the solutions which Charlie thought of to solve his problem.

- _____ Tell his brother that he decided not to help him.
- _____ Help his brother Friday night instead of Saturday.
- _____ Ask his mother to help his brother with the project.
- _____ Tell his friends he can't go to the circus.
- _____ Sneak to the circus without telling his brother.
- _____ Invite his brother to the circus.
- _____ Tell his brother he will help him later.
- _____ Ask his friend to help him with his brother's project.
- _____ Tell his brother to do the art project on his own.

After the story is read the teacher should ask the students the following questions:

1. HOW DOES CHARLIE FEEL? (upset, confused, mad)
2. WHAT IS CHARLIE'S PROBLEM?
3. WHAT'S HIS GOAL? (To go to the circus w/out disappointing his brother.)
4. WHAT SHOULD HE DO NEXT? (stop and think.)

VERY GOOD. NOW, BELOW THE STORY ARE THE SOLUTIONS WHICH CHARLIE THOUGHT OF TRYING. HE HAS TO DECIDE WHICH ONES ARE GOOD AND WHICH ONES AREN'T SO GOOD. WHO CAN SAY HOW TO DECIDE IF A SOLUTION IS GOOD? (By thinking ahead to what might happen next and by asking would I want that to happen.)

LET'S LOOK AT OUR STORY AGAIN. AS WE READ DOWN CHARLIE'S LIST OF SOLUTIONS, I WANT ALL OF YOU TO DECIDE HOW GOOD EACH SOLUTION IS. IF YOU THINK IT IS A GOOD ONE, PUT A HAPPY FACE NEXT TO IT. IF YOU THINK IT'S NOT SO GOOD, PUT A SAD FACE NEXT TO IT. IF IT'S NEITHER GOOD NOR BAD, PUT A FACE WITH A STRAIGHT LINE NEXT TO IT.

REMEMBER, THE WAY TO DECIDE IF A SOLUTION IS A GOOD ONE OR NOT IS TO THINK AHEAD TO WHAT MIGHT HAPPEN NEXT AND TO DECIDE IF THAT LEADS TO WHAT YOU WANT TO HAPPEN.

FINALLY, WE HAVE BEEN TALKING ABOUT HOW TO DECIDE IF A SOLUTION IS A GOOD ONE OR NOT. ONCE WE HAVE A REALLY GOOD SOLUTION, THERE IS ONE LAST PROBLEM SOLVING STEP. WHAT DO YOU THINK IS STEP #6?

Allow volunteers to respond and shape their answers so as to introduce Step #6: WHEN YOU HAVE A REALLY GOOD SOLUTION, TRY IT! Tell the children that since they now know the sixth step they can use it. Ask them to look over their list and pick the solution they would try first. Have the children take turns trying their solutions through a role play. If various children come up with different solutions, the teacher should explain that sometimes there may be more than one really good way to solve a problem. Next, ask the children which solution they think would be the worst one to try, again giving them time to role-play their choices. Once again, stress that thinking ahead is the best way to decide if a solution is a good one or a not so good one to try.

Conclude the lesson by having the children state all six problem-solving steps and adding Step #6 to the Problem-solving staircase.

Week V Lesson 1
Elaboration of Solutions I (Nuances)

Objectives:

The purpose of this lesson is to teach the children that merely thinking of good solutions to problems will not necessarily solve them. It is also necessary to make concrete step-by-step plans to implement a good solution effectively. One's interpersonal style, the feelings of the other person, and the timing of a solution are all factors that influence whether one will reach his/her goal.

In the solutions unit, children were asked to generate alternative ways to solve a problem. These solution proposals were described at a very general level, indicating what the child would do, but not exactly how s/he would do it. In this lesson, children must work out the specifics of what they would actually do to carry out a particular solution paying careful attention to details which greatly affect the chances of success.

Presentation and Procedure:

The purpose of this activity is to exchange ideas with the children about why "apparently good solutions" sometimes fail to solve problems. Begin by asking the following questions:

1. WHAT SHOULD YOU DO IF YOUR FIRST ATTEMPT TO SOLVE A PROBLEM DOESN'T WORK? WHAT SHOULD YOU DO IF YOU DON'T REACH YOUR GOAL? (Think about the problem some more, and try again to solve it.)
2. HOW DO YOU FEEL WHEN YOU THINK OF A GOOD SOLUTIONS AND TRY IT, AND IT FAILS TO MAKE THINGS BETTER? (Discouraged, upset, angry.)
3. CAN ANYONE TELL ME ABOUT A PROBLEM FOR WHICH THEY TRIED A GOOD SOLUTION THAT DIDN'T WORK? (Call on volunteers. Have one or two briefly identify reasons why their solutions didn't work.)
4. IF YOU THINK OF A GOOD SOLUTION TO A PROBLEM, DOES THAT ALWAYS MEAN THAT YOU WILL SOLVE IT? (Not necessarily.)

Next, specific examples will be offered about five apparently good solutions that failed. Discussion should focus on naming reasons why they didn't work. These might include:

1. The problem-solver didn't plan ahead.
2. The time s/he tried his/her solution was wrong (e.g., the other person might have been busy or in a bad mood.)
3. A solution which works with one person may not work with another (e.g., people can feel differently about the same thing.)
4. The problem-solver's tone of voice or facial expression made others angry.

In the stories below, one or more of these reasons may be responsible for the solution's failure. While one reason is emphasized for each story, several possible explanations are acceptable and should be discussed. It will help to write the above reasons on the board to refer to during class discussions.

NOW CLASS, I WANT YOU TO PAY CLOSE ATTENTION. I'M GOING TO TELL YOU ABOUT SOME GOOD SOLUTIONS THAT DIDN'T WORK — SOLUTIONS THAT DIDN'T HELP CHILDREN REACH THEIR GOAL. I WANT YOU TO LISTEN CAREFULLY AND TELL ME WHY YOU THINK THE SOLUTION DIDN'T WORK.

1. ON WEDNESDAY, JOHN BORROWED BOB'S NEW STAR WARS GAME AND BROKE IT. HE THOUGHT OF LOTS OF WAYS TO SOLVE HIS PROBLEM. HE KNEW THAT HE HAD UNTIL MONDAY TO COME UP WITH A SOLUTION BECAUSE THAT IS WHEN HE WAS TO SEE BOB NEXT. ONE SOLUTION HE THOUGHT OF WAS TO BUY BOB A NEW GAME. HOW MANY OF YOU THINK THAT IS A GOOD SOLUTION? (Have the class vote and then ask why or why not the solution was good.) HE WAITED UNTIL SUNDAY NIGHT AND DECIDED TO GO TO THE STORE. WHO CAN TELL ME WHY HIS SOLUTION DIDN'T WORK? (If children don't come up with responses, remind them that most stores are closed on Sunday evenings.) JOHN HAD A GOOD SOLUTION BUT HE DIDN'T THINK ABOUT IT ENOUGH BEFORE TRYING IT. HE DIDN'T PLAN AHEAD. HE WOULDN'T HAVE A NEW GAME FOR BOB ON MONDAY. PLANNING AHEAD IS IMPORTANT IF YOU WANT YOUR SOLUTIONS TO WORK. IF JOHN HAD PLANNED AHEAD, HOW COULD HE HAVE MADE HIS SOLUTION WORK? (By going shopping when the store was open.)

2. HOW ABOUT THIS ONE. MARY BROKE HER MOTHER'S FAVORITE LAMP. HER MOTHER BEGAN SCREAMING AND HOLLERING. HER MOM WAS REALLY UPSET. MARY THOUGHT THAT APOLOGIZING WOULD MAKE HER MOTHER FEEL BETTER. BUT WHEN SHE TRIED THAT, HER MOTHER YELLED, "I DON'T CARE IF YOU'RE SORRY. GO TO YOUR ROOM!" (said in nasty voice.) WHO CAN TELL ME WHAT WENT WRONG WITH THIS SOLUTION? (Discussion should emphasize that trying to solve a problem with someone who is upset makes your job harder. Sometimes it's better to wait until they calm down before dealing with them.)

3. THE LAST TIME BOBBY NEEDED HELP CLEANING UP THE BASEMENT, HE OFFERED HIS BROTHER A CANDY BAR AND HE AGREED TO HELP. ONE CANDY BAR — ONE HELPER. SO WHEN BOBBY'S FATHER TOLD HIM TO FINISH PAINTING THE FENCE ONE AFTERNOON OR HE WOULDN'T BE ALLOWED TO GO TO THE CIRCUS, BOBBY KNEW WHAT SOLUTION TO TRY. HE TOLD HIS FRIEND LARRY THAT HE'D GIVE HIM A CANDY BAR IF LARRY HELPED HIM. LARRY SAID HE WOULDN'T HELP THOUGH. WHO KNOWS WHY THIS SEEMINGLY GOOD SOLUTION DIDN'T WORK? (Discussion emphasizes that not everyone likes candy and maybe his friend was on a diet. If giving something to someone is part of our solution, we have to find out what that person likes.) LARRY DIDN'T LIKE CANDY, BUT MAYBE HE'D LIKE SOMETHING ELSE, LIKE A RIDE ON BOBBY'S TEN-SPEED BIKE.

4. SUSIE WANTED TO JOIN THE KICKBALL GAME. EVERYONE ELSE WAS PLAYING AND SHE WANTED TO JOIN THE GROUP. SHE THOUGHT THEY'D PLAY WITH HER IF SHE SAID PLEASE, SO SHE SAID, "PLEASE, CAN I PLAY?" (said harshly or nastily). ASKING IF YOU COULD PLEASE PLAY CAN BE A GOOD SOLUTION TO THIS PROBLEM. IT CAN BE A GOOD WAY TO JOIN A GROUP. WHY DIDN'T SUSIE'S SOLUTION WORK THEN? (Discussion emphasizes that the way we say things can effect our chances of success -- politeness, abruptness counts.)

5. TIM WANTED TO PLAY WITH THE BOYS ON THE OTHER SIDE OF THE PLAYGROUND. ONE SOLUTION WAS TO SNEAK AWAY FROM HIS CLASS -- BUT HE KNEW HIS TEACHER WOULD BE MAD IF HE DID. HE DECIDED TO ASK PERMISSION, THINKING THAT HIS TEACHER WOULD SAY "YES." MR. MADDEN, TIM'S TEACHER WAS TALKING TO THE PRINCIPAL WHEN TIM INTERRUPTED AND BLURTED OUT, "CAN I PLAY BALL WITH MR. PARKER'S CLASS?" WHY DID MR. MADDEN GET MAD AND TELL HIM NO? (Discussion of the importance of timing in implementing a solution.) Conclude the lesson by asking children to review some of the factors that help good solutions to work:

- a. It's important to plan ahead if you want to reach a goal.
- b. It helps to act at the right time.
- c. A solution that works with one person at one time may not work with another person at another time.
- d. It's important to use a nice tone of voice and to look like you mean what you're saying.

Enrichment Ideas

- Have children draw, write, or act out stories in which flawed solutions don't work out. Classmates can be given the opportunity to guess why they didn't work and what could be done to improve them.

Week V Lesson 2

Elaboration of Solutions II (Step-by-step planning)

Objectives:

1. To demonstrate once again the need for concrete, step-by-step planning in order to make a good solution work.
2. To teach children how to develop a step-by-step plan using a sample problem situation.
3. To emphasize the importance of persistence in the face of obstacles.

Presentation and Procedure:

Part 1: Review and problem presentation.

CLASS, LAST TIME WE LEARNED THAT TO BE A GOOD PROBLEM SOLVER IT'S NOT ENOUGH TO THINK OF GOOD SOLUTIONS, IT'S ALSO IMPORTANT TO DO CERTAIN THINGS (e.g., plan ahead, try at the right time with the right voice, etc.) TO MAKE OUR SOLUTIONS WORK. LAST TIME WE TALKED ABOUT JOHN WHOSE SOLUTION TO THE PROBLEM OF LOSING HIS FRIEND'S GAME WAS TO BUY A NEW ONE. BUT HE WAITED TILL SUNDAY NIGHT AND ALL THE STORES WERE CLOSED.

MARY BROKE HER MOTHER'S LAMP AND TRIED TO SAY SHE WAS SORRY WHEN HER MOTHER WAS TOO MAD TO LISTEN. SO HER SOLUTION DIDN'T WORK VERY WELL.

BOBBY OFFERED LARRY A CANDY BAR TO HELP HIM PAINT THE FENCE BUT LARRY DIDN'T WANT THE CANDY.

SUSIE ASKED IF SHE COULD PLAY IN A NASTY VOICE THAT MADE THE CHILDREN MAD AND THE WOULDN'T LET HER PLAY KICKBALL WITH THEM.

AND POOR TIM ASKED HIS TEACHER'S PERMISSION TO PLAY WITH THE OTHER BOYS AT THE WRONG TIME. HIS TEACHER WAS TALKING TO SOMEONE ELSE SO HE GOT MAD AT TIM. TIM DIDN'T GET PERMISSION.

THESE CHILDREN ALL THOUGHT OF GOOD SOLUTIONS, BUT THEY MADE MISTAKES WHEN THEY TRIED TO DO THEM. IT SURE IS IMPORTANT TO THINK OF GOOD SOLUTIONS, BUT IT'S EVEN MORE IMPORTANT TO HAVE A GOOD PLAN FOR USING THE ONE YOU DECIDE TO TRY.

LISTEN TO THIS STORY AND I'LL SHOW YOU WHAT I MEAN. ERIC IS WORRIED BECAUSE HE BORROWED SAM'S BASKETBALL AND LOST IT. HE DIDN'T WANT SAM TO BE MAD AT HIM. AFTER THINKING OF LOTS OF SOLUTIONS AND THEIR CONSEQUENCES, HE DECIDED THAT A GOOD SOLUTION WOULD BE TO BUY SAM A NEW ONE.

WHAT IS ERIC'S PROBLEM?

WHAT IS ERIC'S GOAL?

WHAT DID ERIC STOP TO THINK OF?

WHICH SOLUTION DID ERIC DECIDE WAS A GOOD ONE?

WHAT DO YOU THINK WILL HAPPEN NEXT IF ERIC BUYS SAM A NEW BALL?

IS BUYING A NEW BASKETBALL A GOOD SOLUTION?

Part 2: Carrying out the solution effectively.

After the class decide that buying a new basketball is a good solution, the teacher may comment:

BUYING A NEW BASKETBALL SEEMS LIKE A GOOD SOLUTION. BUT THINKING AND DOING ARE TWO DIFFERENT THINGS. LET'S MAKE A LIST OF ALL THE THINGS THAT ERIC HAS TO DO TO MAKE THE SOLUTION WORK. SUPPOSE HE'S AT HOME WHEN HE DECIDES TO BUY SAM THE BASKETBALL? WHAT SHOULD HE DO FIRST?

Have the children generate a list of at least six things Eric needs to do to make the solution work. Some issues which might be considered include:

1. Find out what kind of basketball to get.
2. Find out where to get it.
3. Find out how much it costs.
4. Find out when the store is open.
5. How will Eric get the money?
6. How will Eric get transportation to the store?
7. Eric has to purchase the basketball.
8. Eric has to go to Sam and give him the basketball at the right time.
9. Eric has to figure out what to say when he gives Sam the basketball and has to say it in a nice tone of voice.

The teacher should write the children's ideas as they suggest them. As s/he writes, it is also necessary to structure the exercise in two important ways:

1. Have the children make their plans specific — As children mention the tasks to be done, make them specify how they would do them. For example: If a child says, "Find out what kind of basketball to get," the teacher should write this down and then ask, "How could he find out? Who could he ask?" Or if someone says, "He has to get money," the teacher might inquire "What could he do to get it? Where would he get it from? Who could he ask?" The point here is to have the children be as clear and concrete about the plan as possible.
2. Have children carry out the steps of their plan in a logical and sensible order — Although the exact step-by-step sequence of a plan may vary, it is often critical that some actions be carried out before others. For example, it is important to make sure a store is open before going there. Also, it is necessary to get money before buying a basketball. When children make suggestions without mentioning preparatory steps which should be taken first, record the idea and then say something like, "That's an important part of Eric's plan! But, can someone name something that he has to do before doing that? By the end of the discussion, a group's plan of action should follow a logical sequence and no major step should be left out.

After the group's plan has been fully developed and written, there is a final exercise that the teacher should present to encourage children to be persistent when carrying out their plan of action.

1. RAISING OBSTACLES TO KEY POINTS OF THE PLAN OF ACTION —

In addition to making a specific and sensible plan, one must also be ready to try alternative actions if part of the plan falls through. To teach this skill, the teacher should present 2 or 3 obstacles to see if children can work around them. Obstacles should be raised in reaction to specific suggestions and should not be insurmountable. Examples of obstacles for the present plan of action might be:

1. What could Eric do if his father wouldn't give him the money.
2. What could Eric do if there was not a store in his town that sold basketballs.
3. What could Eric do if Sam was in a bad mood when he went to give him the new basketball?
4. What could Eric do if his mother couldn't give him a ride to the store?

If no child in the group can think of an alternative strategy to overcome an obstacle, the teacher should present one. All obstacles, even difficult ones, should be worked through! Record alternative strategies to obstacles along with the rest of the plan.

Another example may be tried in order to emphasize one's ability to overcome obstacles which will most probably arise for any given plan.

The teacher might conclude the lesson by commenting, "SO ONCE YOU DECIDE WHICH SOLUTION TO TRY, THERE MAY BE LOTS OF THINGS YOU HAVE TO DO TO MAKE IT WORK."

Special Notes

- The teacher should leave lots of space between steps of a new plan when listing them. This allows room for additional comments when the children are asked to present their suggestions in a sensible order or with greater specificity. In most cases, it is preferable to write the first child's suggestion near the middle of a page rather than at the top. This permits maximum recording flexibility if children feel other steps should precede it. Ideally, at the end of the exercise, the suggestions for carrying out the plan should be listed in order from the top to the bottom of the page.

Enrichment Ideas

- Have children plan out (in writing) the steps to some goal they would like to accomplish.

Week VI

Integration of Problem-solving behaviors.

Objective:

Much emphasis up to now has been placed on the importance of learning and understanding each of the six individual problem solving steps. The curriculum has made extensive use of drill, repetition, and recitation to assure that children can: 1) recall each of the steps, and 2) memorize the entire problem-solving process in its appropriate sequence. At this point it is less important that children be able to name the problem-solving steps and more important that they demonstrate a conceptual understanding of the component problem-solving skills. The latter implies moving away from mere listing of steps to active discussion of the process and its application. Most importantly, this final unit is designed to provide opportunities for the children to apply the problem solving approach to classroom and other types of real life problems.

In addition, some new concepts will be introduced into the curriculum to strengthen the children's problem-solving abilities. First, children will learn that merely thinking of good solutions to problems may not be sufficient to solve them. It is also important to make concrete, step-by-step plans to effectively implement solutions. For example, a potentially good solution may lead to disastrous results if it is poorly timed or insensitively delivered. Second, it is entirely possible that a child may apply the problem solving sequence perfectly and still not achieve his/her goal because of unanticipated problems or obstacles. When this happens, the child may (understandably) feel upset or discouraged and be tempted to give up -- or ask an adult to come to his/her aid. Accordingly, children will be taught: 1) to carefully plan the implementation of their solution, 2) that unanticipated obstacles sometimes cause one's first solution to fail, and 3) it's important to try again if the first solution doesn't make things better (i.e., to go back to the solutions they thought of and pick another good one to try).

In summary, the unit's goals are:

1. To review the problem-solving sequence to assure conceptual understanding of its steps beyond mere memorization of the process.
2. To discuss and practice how to implement solutions effectively -- the importance of concrete step-by-step planning will be emphasized.
3. To teach the important role of persistence in problem-solving; to be sure to try again if the first solution doesn't work.
4. To provide opportunities to apply the problem-solving approach with real life situations; to aid in the generalization of acquired problem-solving skills to situations outside the formal lessons.

Week VI Lesson 1
Problems and Obstacles

Presentation and Procedure

[The entire lesson should be repeated using a different plot.]

Introduce the lesson by saying:

I'D LIKE TO REVIEW WHAT WE'VE LEARNED BY USING THE PROBLEM SOLVING STEPS TO SOLVE THIS NEW PROBLEM.

Story 1. George and Karen were playing catch when some kid came over, took the ball and ran toward his friends on the other side of the field. They were upset because that was their only ball and they were having fun playing with it. The other kid and his friends began playing with the ball and pointed at George and Karen and laughed at them.

After reading the story, call on volunteers to answer the following questions. It would be helpful to write the problem, goal, solutions, and consequences on the board.

1. How do you think George and Karen felt?
2. What is the first thing they should do?
3. What comes next?
4. Now what?
5. Who can say the next two problem solving steps? (Why?)
6. How can you tell which solution to try?
Why not just try the first solution that comes to mind?
7. Have the children pair 5 solutions and consequences. Have each child rate the effectiveness of his/her solution by asking the "consequences questions."
8. Have the class vote to decide which solution should be tried.
9. Repeat problem-solving step #6

Part 2.

Objective: The purpose of this activity is to encourage children not to give up, to keep trying even if the first solution attempted does not solve the problem.

Presentation and Procedure:

After the class has chosen a solution that George and Karen should try, the teacher might say,

WE'VE GONE THROUGH ALL THE PROBLEM SOLVING STEPS AND COME UP WITH WHAT SEEMS LIKE A REALLY GOOD SOLUTION TODAY. LET'S ACT OUT THIS PROBLEM AND I'LL TEACH YOU SOMETHING NEW ABOUT PROBLEM-SOLVING.

For this problem, the teacher should play the role of the other kid, and select two children to be George and Karen. Structure the role play so that George and Karen are playing catch. Then the

teacher comes over and takes the ball. The two children should be prompted to go through the steps as follows:

GEORGE: WE'RE UPSET BECAUSE PETE TOOK OUR BALL AND THERE IS NOTHING ELSE TO PLAY WITH.

KAREN: OUR GOAL IS TO GET THE BALL BACK.

GEORGE: WHAT DO YOU THINK WE SHOULD DO?

(to Karen)

KAREN: WE COULD (Propose a solution and its consequence)

GEORGE: WE COULD (Propose a solution and its consequence)

KAREN: LET'S TRY (the best solution from the previous activity)

When George and Karen try their solution to get the ball back, the teacher (Peter) should REFUSE TO GIVE IT. Then interrupt the role-play and review what took place.

CLASS, GEORGE AND KAREN STATED THEIR PROBLEM AND GOAL. THEY EVEN THOUGHT OF SOME SOLUTIONS AND THEIR CONSEQUENCES. (Solution X) SEEMED LIKE A GOOD SOLUTION, BUT IT DIDN'T WORK. THEY DIDN'T REACH THEIR GOAL OF GETTING THE BALL BACK.

HOW DID GEORGE AND KAREN FEEL WHEN THEIR SOLUTION DIDN'T WORK? (disappointed, discouraged, sad, tired, mad, let down. Have a brief discussion that this is natural and that the person may be tempted to give up.)

CLASS, WHAT DO YOU THINK GEORGE AND KAREN SHOULD DO NEXT? (The answer you want here is: TRY AGAIN!) THAT'S RIGHT. IT'S IMPORTANT FOR GOOD PROBLEM SOLVERS TO TRY AGAIN.

WHO CAN PICK ANOTHER SOLUTION THAT THEY MIGHT TRY? (If it is a good solution, have them try it and return the ball to them.) WE CAN SEE THAT MANY TIMES, IF OUR FIRST SOLUTION DOES NOT WORK, WE CAN TRY ANOTHER ONE RIGHT AWAY.

BUT, WHAT IF GEORGE AND KAREN THREATENED TO BEAT THE OTHER KID UP AND HE GOT REALLY MAD? WHO THINKS THAT NOW IS THE TIME TO TRY ANOTHER SOLUTION? (Call on volunteers- children may or may not be sensitive to timing at this point. (Basically the answer is that George and Karen should wait.) IF PETE IS THAT MAD, MAYBE GEORGE AND KAREN SHOULD WAIT FOR HIM TO CALM DOWN.

SO, IF YOUR FIRST SOLUTION FAILS, WHAT SHOULD WE DO? (Try again) SOMETIMES WE CAN TRY WHEN? (Right away) AND SOMETIMES WE SHOULD WAIT A LITTLE WHILE.

Conclude the lesson by seeing if anyone can name all six problem solving steps.

Enrichment Ideas:

- Children might be encouraged to keep a problem solving diary in their notebooks. Teachers might structure such an activity by preparing a handout such as the following:

MY PROBLEM SOLVING DIARY

I am feeling _____.

My Problem is _____.

My goal is _____.

I stopped to think of solutions and their consequences.

Solutions	What might happen next?

I am going to do this to solve my problem. _____

_____.

Problem-solving Skit Preparation

Objective:

1. To provide an opportunity for the children to plan a role-play of what they have learned about problem-solving, this time with maximum independence. The skits will be presented to the Teacher's assistants in the last session.

Presentation and Procedure:

Begin the lesson by calling on a few class members to name the problem solving steps if you think they need another review. Ask them to expand on any concepts they seem to be having difficulty grasping.

For this activity, the class will be divided into small groups of three or four, made up (whenever possible) of children who work well together. Before dividing into these groups, tell the class that today they will be making up skits, solving a problem using the problem-solving steps. They will be broken up into small groups and asked to decide among themselves what problem they want to work on. Encourage the children to pick a problem that's important to them. (i.e., that they run into a lot). In order to get the children to apply their problem solving skills outside the school context, instruct them that they can use problems which happen at school or on the playground, or at home.

After they've decided on the problem, they must check it out with the teacher. Next, each group goes through the problem-solving steps to solve the problem including the selection of the best solution to the problem. They should decide who will act out which parts and practice the skit a couple of times. All group members should participate in the skit.

The children should be encouraged to work really hard on these skits, making sure to include all the problem-solving steps, since during the last lesson they will be acting out their skits for the Teacher's assistants and their classmates to see.

Allow the children to work in their groups for small periods of time at different times during the week. The teacher should circulate among the groups, making sure children understand what to do, and helping them to stay on-task when necessary. Children should be encouraged to practice showing feelings, pick out the problems which they encounter most often, have several solution-consequence pairs ready to try out, think of all the steps necessary to carry out a good solution etc.

Special Notes:

- It's important that children be made aware that in two lessons will be the last time the aides will come to teach a lesson. In addition, to pointing out that the skits will be a "farewell performance", some teachers have given children the option of making cards to say "good-bye".

Week VI Lesson 2

Objectives:

1. To demonstrate that the problem solving process can be applied successfully to problem situations which are experienced throughout the day at school and at home.
2. To provide a forum where children may talk about problems they have had where the problem solving process helped or might have helped them to work out difficulties.
3. To practice role-playing solutions to problems.

Presentation and Procedure:

After briefly reviewing the 6 problem solving steps, the teacher may introduce this exercise by saying something like:

TODAY, BOYS AND GIRLS, LET'S TALK ABOUT OTHER TIMES WHERE WE HAVE USED OR COULD HAVE USED OUR PROBLEM SOLVING STEPS. WE CAN TALK ABOUT PROBLEMS WE'VE HAD AT SCHOOL OR HOME, AND ALSO ACT OUT SOLUTIONS TO THEM.

After a few presentations, select one problem which a child had difficulty solving for further exploration. Ask the child to: 1) Say exactly what the problem is, and 2) decide on his/her goal. Then have the class generate solutions and consequences to the problem. These may be role-played. After a few solution-consequence pairings, ask the child who initially described the problem which solution s/he thinks should be tried and have him/her role-play it. During the role-play, point out things (e.g., timing, tone of voice) the child might utilize in trying to solve the conflict more effectively. Also, where helpful, raise obstacles for the children to overcome.

Repeat this exercise using other problems. Conclude the activity by telling children to let you know about times when they use the steps to solve their problems.

Special Notes

- Occasionally it is most productive to have an effective problem solver model a solution attempt before having the child who initially raised the problem act it out. Furthermore, if a child seems upset when raising a problem, it may be best to talk about but not act out the problem at all.

Week VII - THE END

Objective:

1. To review some of the more important points taught during the Problem-solving program.

Materials:

1. List of Problem-solving Quiz questions which can be cut up.

Presentation and Procedure:

TODAY WE WILL HAVE A CONTEST TO SEE HOW MUCH WE CAN REMEMBER ABOUT THE THINGS WE'VE LEARNED IN THE PROBLEM SOLVING PROGRAM.

Divide the class into three (or two) teams. Have the teams sit in lines across from each other so you can ask each team member a question alternating between teams.

Tell the children that their team will receive a point for each question a member of their team answers correctly by himself or herself. If someone is uncertain about an answer or responds incorrectly, then the other team will be allowed to answer the question. The teacher should keep track of the score on the board. At the end of the activity, congratulate each team for how much they know about problem solving.

On the following pages is a list of the questions which will make up the quiz. During the quiz, you should not ask questions in the same order as they appear on the list. Rather, skip from section to section (e.g., Feelings, Problems, Problem-solving steps, etc.) in choosing your questions. One alternative to reading the questions yourself is to cut these questions in strips, put them in a hat, and allow the children to pick their own. A list of the quiz questions can be copied from the pages below.

Special Notes:

- It may be helpful to give children control over the difficulty of questions they answer by assigning difficulty values of 1, 2, & 3 to questions and asking them what level they'd like to answer.

Problem Solving Quiz

Problem Solving Steps

1. Name the first problem solving step.
2. Name the second problem solving step.
3. Name the third problem solving step.
4. Name the fourth problem solving step.
5. Name the fifth problem solving step.
6. Name the sixth problem solving step.
7. Name all the problem solving steps.

Feelings

1. Who has feelings?
2. Where are feelings?
3. How can we tell how a person is feeling?
4. True or False. Everyone feels the same about the things they do or that happen to them.
5. What two kinds of feelings are there?
6. True or False. Feelings always stay the same.
7. Name a good feeling (Can be asked several times.)
8. Name a not-so-good feeling. (ibid)

Problems

1. What is a problem?
2. What must we do with problems?
3. Name a problem. (can be asked several times)
4. What is a goal?
5. Why is it important to stop and think before you act?

6. Name a problem and a goal. (can be asked several times.)
7. How can we tell if we're having a problem? (Upset feelings)

Solutions

1. How many different ways are there to solve a problem?
2. How many solutions should we try to think up?
3. Name a problem and two solutions.

Consequences

1. What is a consequence?
2. How can you tell if a solution is a good one?
 - a. By thinking ahead to what might happen next.
 - b. By deciding if you want that to happen.
3. When you think you have a good solution, what should you do next?
4. True or False. There is only one good way to solve a problem.

Making Solutions Work

1. Does thinking of solutions always solve your problem?
2. Name some reasons why good solutions might not solve your problems.
 - a. The other person might be in a bad mood.
 - b. The other person might be busy, or it's a bad time.
 - c. A good solution might work with one person but not with another.
3. What should you do if your first solution to a problem doesn't work?
4. Do you think you can usually solve your own problems if you try?

Part 2.

Put on Problem-solving skits that the children have been working on this last week.

Part 3.

Problem solving program wrap-up.

Objectives:

1. To allow the children to summarize and integrate for themselves what they've learned from the program.
2. To allow them to express their opinions about the program.
3. To encourage them to continue using the problem solving steps even though the program is over.
4. To discuss ways to practice problem solving for the remainder of the year.

Presentation and Procedure

You should start this lesson by saying something like:

CLASS, TODAY IS THE LAST REGULAR DAY OF THE PROBLEM SOLVING CLASS. HOWEVER, THAT DOESN'T MEAN THAT IT WILL BE THE LAST TIME WE WILL USE OUR PROBLEM SOLVING SKILLS. WE CAN USE OUR PROBLEM SOLVING STEPS ALL THE TIME, EVERYDAY IN SCHOOL AND AT HOME.

TODAY, I WOULD LIKE TO FIND OUT HOW YOU THINK THE PROBLEM SOLVING PROGRAM HAS HELPED YOU AND WHAT YOU THINK OF SOME OF THE THINGS WE'VE BEEN DOING.

The following questions will facilitate a discussion on the children's attitudes and opinions on the Problem-solving program. Please feel free to add any questions which you think are relevant. Since we would like a maximum amount of feedback, encourage as many children as possible to participate. Do not accept 'yes' or 'no' answers — ask children to explain further or elaborate their responses.

1. WHAT THINGS HAVE YOU LEARNED FROM THE PROBLEM SOLVING PROGRAM THAT YOU DIDN'T KNOW BEFORE?
2. CAN YOU THINK OF TIMES WHEN YOU'VE BEEN ABLE TO USE THESE NEW THINGS?
3. WHAT KINDS OF PROBLEMS HAS THE PROBLEM SOLVING PROGRAM HELPED YOU TO SOLVE?
4. WHEN HAVE YOU USED THE PROBLEM SOLVING PROGRAM AT HOME?
5. HOW HAS THE PROBLEM SOLVING PROGRAM HELPED WITH THE WAY YOU GET ALONG WITH OTHER PEOPLE?
6. WHAT ARE SOME OF THE THINGS YOU LIKED DOING BEST DURING DURING THE PROGRAM?

7. WHAT ARE SOME OF THE THINGS YOU LIKED DOING THE LEAST?
8. DO YOU THINK OTHER BOYS AND GIRLS WOULD LIKE TO LEARN ABOUT PROBLEM SOLVING?
9. WOULD YOU LIKE TO LEARN ABOUT PROBLEM SOLVING NEXT YEAR AGAIN?
10. HAVE YOU EVER TRIED TO TEACH ANYONE ELSE ABOUT PROBLEM SOLVING?
11. HOW CAN WE KEEP USING THE PROBLEM SOLVING STEPS IN CLASS?

Praise the children for the fine job they've done throughout the Problem-solving program trying to learn the new ideas and use them in school and other places. Most importantly, remind the class that problem solving is not over — it's just beginning. Now that they have learned how to solve their problems, you'd like to see them use these ideas more and more. Let the class know that you'll be using problem solving yourself and you'd like to help them if they have any questions when they use it. Sometimes, when you can't seem to solve a problem you need to ask the teacher or someone else for help. Both things are okay to do — and the teacher should encourage this sort of interaction.

In addition, a problem solving box will be placed in each class. Children can write down any problem they have during the week — or something brief that will remind them of their problem. Index cards or diary sheets can be used for this purpose. At least once each week, at a designated time, the teacher can go through the cards and select a few for class discussion, role-play, etc. Teachers' use of spontaneous dialoguing, as problems occur, will often be most effective for encouraging children to apply the problem solving procedures. In connection with the weekly discussion and/or in relation to the ongoing class behavior (in which problem solving is used) the teacher can designate a child Problem solver of the week — each week. The receipt of this award could be tied to some special classroom privilege.

SPS ENCORE

The lessons in this SPS program teach children 1) a problem-solving vocabulary, 2) important aspects of problems to focus on, 3) an approach that facilitates communication about solving problems. Some kids "get the message" and consistently work out their own difficulties. Most kids still require their teacher's encouragement to try out problem solving in real life situations. The way to affect children's use of problem solving is to point out times when they actually do or don't use it. Hopefully, by the end of teaching the formal lessons, and applying problem-solving ideas during other parts of the school day, teachers will feel comfortable using problem solving dialoguing techniques and will naturally continue to find many ways of integrating problem solving into the classroom experience.

Before offering some ideas on how to remind and reinforce kids' application of problem solving, a few qualifiers are in order. First, problem solving shouldn't be used all the time. It's one important tool in your bag of tricks. In situations where children are too upset or the class is unruly and you want to establish control, techniques other than problem solving may be more effective. Decide when to use SPS by keeping two ends in mind:

1. To help kids learn to handle themselves more effectively.
2. To make kids believe that they can solve problems on their own.

How and when do you work toward these goals? Two chances to intervene with problem solving dialoguing are:

1. When a problem arises in the classroom and you observe it.
2. When a child approaches you with a problem.

You can point out deficiencies in a child's approach by asking,

WHAT'S THE PROBLEM HERE? HOW DO YOU KNOW?

WHAT HAVE YOU DONE ABOUT IT SO FAR? (Praise attempts and identify feelings, consequences, means-ends thinking, and ways to improve or persist.)

DID YOU STOP AND THINK? DID YOU ACT TOO QUICKLY?

WHAT WAS YOUR GOAL? HOW DID YOU WANT THINGS TO END UP?

WHAT SOLUTION/S HAVE YOU TRIED? HOW COULD YOU MAKE THAT SOLUTION WORK OUT BETTER?

WHAT OTHER SOLUTIONS CAN YOU THINK OF? DID YOU THINK AHEAD TO THE CONSEQUENCES?

If you're busy, call on a good problem solver to help the child with the problem. Have kids tell you what they finally did to work things out. For most cases, it's best to encourage children to solve conflicts on their own. In some instances, (e.g., when a child has already tried several good solutions or has been threatened physically) it's best for the teacher to intervene. When you help with a problem, point out why asking you was a good solution.

You can also adapt any of the following ways to create or encourage opportunities to employ problem solving:

1. Focus on a child who has solved a problem effectively. Help children take notice of when they or someone else used the process — even without knowing it.

2. Reward children for using problem solving (e.g., "Problem-solver-of-the-week/month/year" awards).

3. Designate a regular problem solving discussion time during which children can report successful uses of problem solving or get group help on problems they have been unable to solve.

4. Tell children about your own problems and successes; get their help with tough, persistent class problems for which new solutions are needed from time to time (alternatives contests may be useful at times to get the group thinking of new solutions to old problems).

5. "Cue" children, when possible, to apply steps and solve problems on their own as they come up. Some situations may call for giving the children with a problem a limited period of time in which to solve the disagreement by themselves or accept your solution (one which neither child would prefer).

6. Show and tell activities about feelings and experiences can be used individually or in small group SPS skits.

7. Spontaneous problem solving can be repeated to give kids practice in on-the-spot applications.

8. Role-plays can be acted out by children to help someone else with a tough problem or to try out different solutions that can be improved with rehearsal of such elements as tone of voice, planning, dealing with obstacles, persisting, etc.

9. A class problem solving chart could be kept up to see how many times children (and teachers) use problem solving by the end of the year. Older children may keep individualized logs with entries for times that they solved problems at home or on the playground as well as in school.

APPENDIX C

Children's MEPS

The Children's MEPS is administered orally to individual children. Children's verbal responses are recorded verbatim by the test administrator. The task is presented as follows:

We are interested in the way children like you think about things. Now what we are going to do is not a test. In other words, there are no right or wrong answers, Okay? What you are going to do is make up some stories and I'm going to help you. For each story, I will give you the beginning and the end. You will make up the middle part. In other words, you make up what happens in between the beginning of the story I will give you and the end of the story I will give you. Be sure and tell me everything about the story that comes into your head, Okay?

The following six stories comprise the Children's MEPS. Male protagonists are used for boys, and female protagonists (in parentheses) for girls.

1. One day George (Amy) was standing around with some other kids, when one of the kids said something real nasty to George (Amy). George (Amy) got very mad. He (she) got so mad he (she) decided to get even with the other boy (girl). The story ends with George (Amy) happy because he (she) got even. What happens in between one of the kids saying something real nasty to George (Amy), and when he (she) is very happy because he (she) got even?

2. Al (Joyce) had just moved into the neighborhood. He (she) didn't know anyone and felt very lonely. The story ends with Al (Joyce) having many good friends and feeling at home in the neighborhood. What happens in between Al's (Joyce's) moving in and feeling lonely, and when he (she) ends up with many good friends?

3. One day, Bob (Barbara) sees a valuable diamond in a shop window and he (she) decides to steal it. The story ends after he (she) steals the diamond. What happens in between his (her) seeing the diamond in the shop window and when he (she) steals it?

4. Victor (Vickie) broke his (her) mother's favorite flowerpot and he (she) knows his (her) mother will be mad at him (her). The story ends with his (her) mother not being mad at him (her). What happens in between when Victor (Vickie) broke his (her) mother's favorite flowerpot and when his (her) mother is not mad at him (her)?

5. Jim (Jane) needed money badly. In three weeks, it would be his (her) mother's birthday, and he (she) wanted to buy her something special. The story ends with Jim (Jane) giving his (her) mother the present on the morning of her birthday. What happens in between Jim's (Jane's) needing money badly, and three weeks later when he (she) gives his (her) mother the birthday present?

6. While walking home one day, Pete (Helen) saw a beautiful sports car parked at the curb. He (She) went over and looked at it and as he (she) looked it over, he (she) wished some day that he (she) would own one. The story ends with Pete (Helen) owning a car just like it. What happens in between Pete's (Helen's) seeing the beautiful sports car and when he (she) ends up owning one just like it?

Scoring.

The Children's MEPS is scored for the number of means stated toward a given story goal, the number of obstacles that might be encountered on the way to that goal, and the number of indications of time taken to reach the goal. These component scores are summed across stories to give a total means-ends score for each child.

The scoring procedures and definition of terms outlined briefly in Shure and Spivack (1972) were followed closely in the present study. Scoring instructions were adapted from Butler (1979).

General.

1. Restatement of story beginnings were not scored, nor was there any scoring of material that followed goal attainment.

2. If any degree of goal attainment was present in the child's story, normal scoring procedures were followed. Only when the story action was totally facetious or irrelevant to goal attainment, or when there was a total failure to work toward the stated story goal, was the child's production scored zero.

Means.

1. Very vague action references (e.g. "She did some things to the girl", "he got some friends") were not scored as means. More specific, but unelaborated action references (e.g. "She played a trick on the girl", "He made friends with ...") were accepted as means.

2. Means were scored for each step in well-elaborated problem-solving sequences (e.g. obtaining materials, setting up situations, execution of plan). However, description of an action sequence that was merely detailed (e.g. a blow-by-blow description of a fistfight) was scored as one mean only, i.e., fighting.

3. Action sequences that showed relatively greater sophistication in handling interpersonal problems frequently merited more than one mean. For example, in Story 4, telling mother that her flower pot was broken merited one mean; telling her as well as apologizing or offering to buy her another flowerpot was scored as two means.

4. Story sequences that showed awareness of complex steps in solving a problem, often merited more than one mean. For example in Story 6, the major problem was usually seen as getting enough money for a sports car (scored one mean); additional steps such as learning to drive or getting a licence were scored as separate means if they were portrayed as necessary to the defined goal of obtaining a sports car.

5. References to a specific planning process or to setting up a situation were scored as means separate from the means scored for execution of the plan. For example, statements such as "He drew up a plan, then he (executed plan)" were scored as two means.

6. References to thinking of consequences followed by a modification of the plan [e.g. "he decided he couldn't do it because he would get in trouble, so he (thought of another plan)"] were scored as means separate from execution of the plan.

7. Asking for help or suggestions from either peer or authority figures was scored as a mean separate from execution of the problem-solving action.

8. Two or more means in the same category in any given story (e.g. playing, getting a job) had to be qualitatively different to merit scoring as separate means. In Story 5 for example, getting a job in a store, getting a paper route, and babysitting were considered separate means. Doing chores for mother and then for several neighbors was scored as one mean only.

9. Story sequences that revealed an awareness of how a goal might be obtained (e.g. a teacher introducing a new child in the neighborhood to the class) were scored as means even though the protagonist did not himself indicate action instrumental to goal attainment.

10. References that implied but did not directly state problem solving intention (e.g. a new child in the neighborhood going out bike riding to look around, in Story 2) were scored as means.

11. References to actual goal attainment were not scored. For example in Story 3, a sequence such as "He broke the window (or reached in) and grabbed the diamond" was scored as one mean only.

12. Although stories were not scored past goal attainment, in Story 3 (where the defined goal is obtaining the diamond) references to leaving the scene or hiding the diamond that were seen as part of the overall plan were scored as separate means.

Obstacles.

1. Internal impediments to goal attainment (e.g. shyness, moral consideration, being different from other children) were scored as obstacles, as were external impediments (e.g. another person interfering).

2. Obstacles were scored only in relation to the defined goal attainment. If they were seen simply as a consequence of a given action (e.g. in Story 1, "They fought at recess and got the strap") or as a prelude to a conclusion which was not the defined goal (e.g. in Story 1, "They got a lecture for fighting, so they made up."), they were not scored. In Story 3, references to the protagonist being discovered, or to discovery that the diamond was missing were not scored as obstacles unless they threatened successful completion of the robbery.

3. As with means, repetitions of essentially the same obstacle were not scored.

Time.

1. Two kinds of time reference were scored:

a) propitious use of time on an occasion (e.g. stealing the diamond when the storekeeper was in the back of the store at night.

b) clear recognition that the passage of time was a natural part of planning to solve or actually solving a problem.

2. Vague references to time (e.g. "later", or "After a while") or references that were a natural part of any story-telling process (e.g. "The next day", "On the way home") were not scored for time.
3. Passage of time references that were not appropriate to the problem at hand (e.g. in story 6, a child saving money for a car in one week) were not scored for time.
4. Repetitious references to time were scored only once per story (e.g. "He did job X for one week, then job Y for one week..."). This kind of time reference occurs most frequently in Story 5.

APPENDIX D

FOURTH GRADE FRIENDSHIP ROSTER

	1 Dislike A Lot	2 Dislike Somewhat	3 OK	4 Like Somewhat	5 Like A Lot
CINNAMON TWIST	1	2	3	4	5
JEAN-CLAUDE BOOZER	1	2	3	4	5
ANNE HALL	1	2	3	4	5
JOHN COUGAR	1	2	3	4	5
CHRISTOPHER REEVE	1	2	3	4	5
NORM CERTAIN	1	2	3	4	5
RYAN DAVIS	1	2	3	4	5
ARCHIE BUNKER	1	2	3	4	5
ROBERT DOUGLAS	1	2	3	4	5
MARK HAMILL	1	2	3	4	5
AREIHA FRANKLIN	1	2	3	4	5
DANNY LEFRANK	1	2	3	4	5
JESSE OWEN	1	2	3	4	5
VANNA WHITE	1	2	3	4	5
JENNY PUPERSMITH	1	2	3	4	5
JERRY OMALLY	1	2	3	4	5
STEVE PAZUCKY	1	2	3	4	5
JUDY FINLEY	1	2	3	4	5
ALEX KEATON	1	2	3	4	5
SHELLY TUCKER	1	2	3	4	5
	1 Dislike A Lot	2 Dislike Somewhat	3 OK	4 Like Somewhat	5 Like A Lot

Peer Evaluation Sheet

Someone who is smart and usually has the answer.

Someone who is honest.

Someone who gets mad when they don't get their way.

Someone who doesn't want your help, even if you offer it.

Someone who seems to play by himself/herself.

Someone who tells other children what to do.

Someone who is a bully and picks on smaller boys and girls.

Someone who is stuck up and thinks he's/she's better than anyone else.

Someone who is a nice pest, who is often in trouble but is really nice.

Someone who is good at explaining things to others.

Someone who shares his/her things.

Someone who is afraid to ask for help.

Someone who never seems to be having a good time.

Someone who is funny and does not cause trouble in class.

Someone who can't wait his/her turn.

Someone who often changes the subject.

Someone who is liked by all.

Someone who doesn't know how to join the group.

Someone who stands back and watches while others are playing.

Someone who seems too shy to make friends.

Someone who complains a lot.

Someone who speaks softly and is difficult to understand.

A child who is often falling down or getting hurt.

Someone who is always helping others.

Approval Sheet

The thesis submitted by James Keyes has been read and approved by the following committee:

Dr. Alan S. DeWolfe, Ph.D. Director
Professor, Psychology, Loyola University

Dr. Linda Heath, Ph.D.
Associate Professor, Psychology, Loyola University

The final copies have been examined by the director of the thesis and the signature which appears below verifies the fact that any necessary changes have been incorporated and that the thesis is now given final approval by the committee with reference to content and form.

The thesis is therefore accepted in partial fulfillment of the requirements for the degree of Master of Arts.

6/5/87
Date

Alan S. DeWolfe, Ph.D.
Director's Signature