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AUTHOR Smink, Jay; Stank, Peg
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ABSTRACT

This manual, developed in an effort to take the mysticism out of program evaluation, discusses six phases of the program evaluation process. The introduction discusses reasons for evaluation, process and outcome evaluation, the purpose of the handbook, the evaluation process, and the Sequoia United School District Dropout Prevention Program. Phase One provides a checklist for identifying the elements to be evaluated. An example is provided which illustrates the use of the checklist. Phase Two summarizes the steps used in producing evaluation questions for a program. A checklist is included which can be used as a guide. Phase Three provides a description of evaluation designs and data analysis procedures which could be used with these designs. Phase Four includes three categories to illustrate the instruments used for data collection. The steps to follow in selecting or constructing data collection instruments are summarized in a checklist. Phase Five discusses efficient collection, analysis, and interpretation of evaluation data. A checklist is included. Phase Six discusses the distribution, publication, and presentation of the evaluation report. Sections that should be included in an evaluation report are described, and a checklist is included to use as a guide in preparing evaluation reports. Illustrative examples and sample surveys are included. Throughout the manual, the Sequoia United School District Dropout Prevention Program is used as an example, and evaluation plans for interactive counseling services are included. (LLL)

THE EVALUATION HANDBOOK

The National Dropout Prevention Center is a partnership between an organization of concerned leaders--representing business, educational and policy interests and Clemson University, created to significantly reduce America's dropout rate by fostering public-private partnerships in local school districts and communities throughout the nation. The Center cultivates these partnerships by collecting, analyzing and disseminating information about dropout prevention policies and practices; and by providing technical assistance to develop and demonstrate dropout prevention programs.

For more information, contact:

The National Dropout Prevention Center

205 Martin Street

Clemson University

Clemson, South Carolina 29634-5111

(803) 656-2599

THE EVALUATION HANDBOOK

GUIDELINES FOR EVALUATING DROPOUT PREVENTION PROGPAMS

JAY SMINK

PEG STANK

A Publication of the National Dropout Prevention Center

MARCH 1992

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FOREWORD

Educators today are focusing on restructuring their school systems and educational programs to respond to the current and changing needs of students. One component of the restructuring process that is generally agreed upon is the need for greater accountability and credibility. As educators, we have been quick to adopt new programs, materials, and delivery systems without evaluating the impact of these changes upon the student population for whom they were designed. Such lack of accountability has led to a gap in the credibility of our educational systems across the nation.

It is time for educators who are in leadership and decision-making positions to welcome the opportunity to evaluate their programs rather than fear the threat of failure. An evaluation designed to measure the goals and objectives of a particular program offers us opportunities to fine tune our programs and increase the chances of student success.

The evaluation process should help program staffs more effectively design, develop, implement, and improve their programs. There are numerous reasons for evaluating our dropout prevention programs including:

- to measure the strengths and weaknesses of the program and implement the appropriate changes;
- to measure student outcomes;
- to establish credibility for the program;
- to provide a rationale for continuation of funding or system support; and
- to document the process of program implementation for replication.

The National Dropout Prevention Center has developed this manual in an effort to take the mysticism out of program evaluation. As educators interested in our youth who are at risk of dropping out of our schools, we need to design programs that meet their needs. Evaluating those programs is the only way we can know if we indeed have met that challenge.

Dr. Nancy L. Peck, Associate Director
Southeastern Desegregation Assistance Center
Southern Education Foundation
Miami, Florida

Editor's Note: Dr. Peck is one of the founders of The National Dropout Prevention Network and served as the first chair of the Network's Executive Board. She also has been instrumental in the development and direction of the Center.

ABOUT THE AUTHORS

Dr. Peg L. Stank
Evaluation Design and Staff Training Consultant

Dr. Stank was the Division Chief for Research and Evaluation of the Pennsylvania Department of Education. She was responsible for the design and implementation of evaluation procedures for statewide programs. She also served as the project evaluator for the Pennsylvania School Improvement Program (PSIP) funded by the National Institute of Education. PSIP was designed to demonstrate and evaluate how research information was utilized in local schools. Dr. Stank now serves as Director of Research for the West Shore Institute in Harrisburg, Pennsylvania and as a certified trainer for Education Associates, Inc. in Frankfort, Kentucky.

Her areas of expertise include program evaluation design and implementation which encompasses instrumentation, data collection, data analyses and reporting. Also, Dr. Stank has developed and conducted a wide variety of staff training programs, staff evaluation procedures and program monitoring.

Dr. Jay Smink
Executive Director of the National Dropout Prevention Center

In 1988, Dr. Smink joined the National Dropout Prevention Center at Clemson University from the National Center for Research in Vocational Education at The Ohio State University where he was the former Director of Marketing and Dissemination. He earned his doctorate in Educational Administration from The Pennsylvania State University. His experience in research and program evaluation began as Director of the Research Coordinating Unit for Vocational Education in the Pennsylvania Department of Education. He was also the director of the Bureau of Research and Evaluation and at this time directed a national school improvement project featuring the utilization of new research products in local schools. He is also a member of a number of professional organizations which include: Phi Delta Kappa, the National Education Association, and the American Vocational Education Research Association (in which he has held office).

Dr. Smink's 33-year career includes a strong background in public education programs at state and local levels. He has authored many articles for journals and newsletters as well as professional monographs and papers regarding research into and improvement of basic skills and vocational education programs. He is a national leader and authority on dropout prevention, vocational education research and development, marketing, project management and evaluation.

EVALUATION: AN INTRODUCTION

WHY EVALUATE?

Evaluation is a required, integral part of every successful dropout prevention program. A well-planned evaluation provides information that shows whether or not a program is operating as it was designed to operate; how well a program is functioning; and the impact of a program on the students, teachers, or other participants.

The groups that require evaluation information about a program are the program decisionmakers, the funding agencies, the sponsoring institution's administrators, advisory groups, community agencies, social service agencies participating in the program operation, parents and the general public, as well as future clients and participants. These groups expect the program to be successful and want evidence to support their belief in the value of the program.

The evaluation process will provide information that can be used to:

- modify or adapt program operations;
- justify program continuation and expansion;
- support continuation of funding;
- generate reports that may be used for public relation purposes; and
- justify program termination.

The evaluation process focuses on:

- the stated goals and objectives of the program;
- the critical elements and activities of the program as they are described in the proposal or program materials; and
- additional areas requested by funding agencies, administrators, community agencies, social service agencies, businesses, and other groups participating in the program.

The responsibility for evaluation rests with the program director. It is up to the director to plan and implement the evaluation procedures so that the decisionmakers will have evaluation information and reports for use in planning the future operation of the program. This does not mean that a program director will do the evaluation, but it does mean that the director will locate persons with the expertise to design and implement an appropriate evaluation procedure for the program. Sometimes internal staff persons will be assigned responsibilities for evaluation procedures, and in other cases it may be necessary to hire external evaluation contractors.

EVALUATION PHASES

There are specific phases in the evaluation process. First, the program elements or activities to be evaluated must be identified and evaluation questions generated for each of them. For each evaluation question, an evaluation design must be selected, data collection and analysis processes identified, and the dates for evaluation reports set. The data must be collected, analyzed and summarized, and the evaluation reports must be written. Within each evaluation phase there are many subactivities to consider when establishing the timeline for the evaluation process.

Evaluation designs, data collection, and data analysis procedures can range from complex and sophisticated to very simple. Some designs require control or comparison groups with random sampling and data analyses such as Analysis of Variance Multiple Linear Regression, and Analysis of Covariance. This handbook will not deal with this level of sophistication—it will provide a straightforward description of evaluation using simple data analyses to describe the effects of a program on participants and the efficiency of program operation.

PROCESS AND OUTCOME EVALUATION

There are two types of evaluation needed to document the successes and weaknesses of dropout prevention programs:

1. **Formative or process evaluation** which addresses two major questions:
   - Are we doing what we said we were going to do in the proposal or program description?
   - Is the program operating efficiently and in a timely manner?
2. **Summative or outcome evaluation** which addresses two major questions:
   - How well are the program's goals and objectives being met?
   - What is the effect of the program on participants?

Process and outcome evaluation activities usually overlap, and data are often collected simultaneously. Process evaluation data summaries and reports are prepared during the program operation and may be used to adjust its operation for effectiveness and efficiency. The outcome evaluation data are not collected until the end of each cycle of program operation.

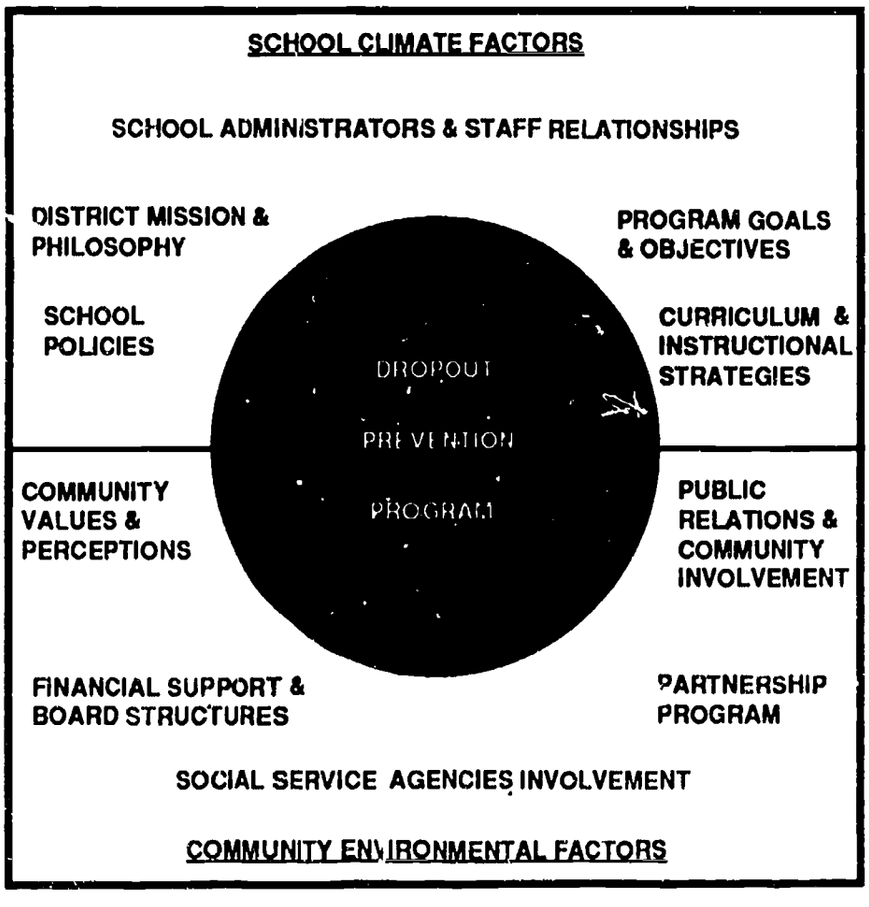
PURPOSE OF THE HANDBOOK

This handbook will provide a nontechnical description of each phase of evaluation and will provide sample forms and examples for adaptation and use by program directors and evaluation coordinators. For descriptions of more sophisticated approaches to evaluation, the coordinator should consult publications such as Kosecoff and Fink's *Evaluation Basic* published by Sage, and other similar resource books.

The evaluation plan for a dropout prevention program should apply evaluation processes to (1) the school climate, (2) the community environment in which the program operates, (3) the major educational components of the program, and (4) the interaction among the school climate and the community environmental factors and the educational components. School climate refers to the overall conditions present in the school and community that influence the school program in positive and negative ways. For example, the relationship between the district administrative staff and school instructional staff may be very strained as a result of a recent teacher strike over a salary contract dispute. This relationship would not prove to be beneficial for the initiation of a new project. Community environmental factors refer to the conditions that exist in the community related to school issues such as an upcoming school bond issue or a proposed new busing plan. Evaluation efforts should take these factors into account.

The illustrative examples of the evaluation process given in this handbook will focus on one educational component of a fictitious dropout prevention program. However, in the real world the evaluation process would be applied to both the educational program components **as well as** the school climate and community environment in which the program operates. Exhibit 1 illustrates how a dropout prevention program must function within the constraints of many different school climates and community environmental factors.

EXHIBIT ONE: SCHOOL CLIMATE AND COMMUNITY ENVIRONMENTAL FACTORS



A dropout prevention program has many other major components and specific elements that all need to be reviewed and evaluated. Examples of broad-based program components include:

- staff selection and development,
- public relations,
- advisory committees,
- parental involvement,
- coordination of partnerships,
- curriculum selection or development,
- assessments and testing,
- reporting accomplishments and failures, and
- project management and scheduling.

THE EVALUATION PROCESS

There are six phases of the evaluation process presented in this handbook.

PHASE I IDENTIFICATION OF THE PROGRAM COMPONENTS, ELEMENTS, PROCEDURES AND ACTIVITIES TO BE EVALUATED

PHASE II GENERATION OF EVALUATION QUESTIONS

PHASE III SELECTION OF EVALUATION DESIGN AND PROCEDURES FOR DATA COLLECTION AND ANALYSES

PHASE IV INSTRUMENTATION

PHASE V DATA COLLECTION, ANALYSIS, SUMMARIZATION AND INTERPRETATION

PHASE VI PREPARATION OF THE EVALUATION REPORTS

Each phase of evaluation will be described and then a checklist of the steps within the phase will be displayed. The checklists will be followed by an example that illustrates the application of that phase of evaluation. All of the examples are based upon the fictitious dropout prevention program which follows and is described throughout the text of this handbook.

THE SEQUOIA UNITED SCHOOL DISTRICT DROPOUT PREVENTION PROGRAM

Sequoia United School District personnel initiated a dropout prevention program in September, 1981. The target at-risk population was ninth grade students identified by teachers and counselors from school academic, attendance, and disciplinary records. From 1975 to 1981 the district had a dropout rate of 25 percent. It was expected that a substantial decrease in the dropout rate would occur in the 1985 class because these students would have been served by the new program during all four years of high school.

The 1981-85 Dropout Prevention Program included a work-study partnership program with participating private sector employers, academic support services, and special inservice for staff and administrators. The district central office had actively pursued cooperative participation of community and social service agencies in the dropout prevention effort. The evaluation information collected from 1981-1985 showed an increased community and business participation in the program, successful work-study student experiences and an improvement in at-risk students' academic grades. However, the impact of the program on the graduation rate of the at-risk student was much less than expected. The program director met with school administrators and staff, program advisory groups, businesses participating in the work-study partnerships, participating community agencies, and participating social service agencies to discuss ways to improve the effectiveness of the Dropout Prevention Program.

The evaluation information shared with these groups showed that over the four years of the program's operation the community groups and social service agencies had moved from an awareness of the dropout problem to active participation in the program activities. The academic support system had been instrumental in improving the grades of the at-risk students and participants were succeeding in the work-study program. However, the graduation rate among the students had not shown much increase. The participants in these meetings discussed the continuing problem of the low graduation rate among the high-risk students and possible solutions to the problem.

The evaluation information and the input from the school, the community, the social service agencies, parents, and students indicated that a weakness in the current Dropout Prevention Program was the lack of interactive personal counseling between school staff and those students identified as potential dropouts. All participating groups and the school administration recommended that the program levels of academic support and work-study be maintained and an Interactive Counseling Service be initiated for the ninth grade at-risk students in September 1986. They believed that this configuration would turn the dropout rate around by June 1990. The school-community-business partnership members would continue their active support and participation in the program and work cooperatively with the counselors. Representatives of the social service agencies would work closely with the counselors to provide high-risk students access to all appropriate resource services for which they or their families were eligible.

The Sequoia superintendent and the district administrators developed a plan to expand the current dropout prevention program in the fall of 1986 to include an intensive one-to-one Interactive Counseling Service component. Inservice in mentoring skills, interpersonal communication skills and the knowledge base related to the factors that cause students to drop out of school were scheduled for the counseling staff. The counseling service component was expected to develop a bonding between student and counselor and ultimately a strong connection between

the student and the educational system. The counseling service included regular counselor and parent interaction to build home support for students to stay in school and graduate.

The evaluation procedures already in place for the community involvement, the work-study program, and academic support services components would be continued. The new Interactive Counseling Service component to be introduced into the program in the fall of 1986 would be the primary target of evaluation for the next four school terms.

The overall goal of the Sequoia Dropout Prevention Program and the objectives and enabling activities of the Interactive Counseling Service component are given below.

THE DROPOUT PREVENTION PROGRAM GOAL

The graduation rate for at-risk students in the Sequoia United School District will be substantially increased by 1990.

INTERACTIVE COUNSELING SERVICE COMPONENT

Objective: 90% of the ninth grade at-risk students entering the program in September 1986 will graduate from high school.

ENABLING ELEMENTS FOR THE COUNSELING SERVICE COMPONENT

- Ninth-grade at-risk students will be identified early in the first term of the 1986-87 school year and assigned to counselors by October 15, 1986.
- One-to-one weekly counseling services for the students will begin the second term of the 86-87 school year and continue in 10th, 11th and 12th grades.
- By the 10th grade a mentor relationship will have been developed between counselor and student.
- Students will be placed in the work-study program in 11th and 12th grades.
- Counselors will meet with students and parents in August 1989 to discuss 12th grade goals.
- Counselors will meet with work-study employers in September 1986 to discuss students' futures in labor markets and educational needs beyond high school.
- Counselors and students will work out the students' strategies for success in their selected occupation including: employment applications, interviews, application for postsecondary education, and application for financial aid for postsecondary education.

The examples and illustrations used in this handbook will be based on the objectives and the elements defined for the Interactive Counseling Service component of the program. The same procedures could be used to evaluate the total educational program, the school climate, and other community environmental factors. Evaluation of the interaction among program components, school climate, and selected community environmental factors is also possible.

PHASE ONE: IDENTIFYING EVALUATION ELEMENTS

The first step in evaluation is to identify the program components and school environmental factors to be evaluated. Valid sources to use in selecting the targets for evaluation are the program description or proposal, interviews with program developers and supporting agencies, and the stated goals and objectives of the program. The project director or the designated staff responsible for evaluation (we will call this designee the evaluation coordinator) reviews the program proposal, program components, proposed program materials, and activities then makes a list of elements to be evaluated.

The evaluation coordinator should set up a meeting with representatives of advisory groups, administrators, community groups, private sector employers, social service agencies, and other groups directly involved with the program to determine the program components and elements and school environmental factors to be considered in the evaluation process. This meeting is most effective when the evaluation coordinator has prepared a preliminary list of elements to be evaluated for use by the participants as a starting point.

If it is not possible to schedule a meeting with the vested interest groups, the evaluation coordinator should mail the list of elements to be evaluated to representatives of the groups and ask for additions to the list and their approval of the final set of elements to be evaluated. When a mailing is used with the vested group representatives, they should also be asked to submit a list of questions they want the evaluation to answer. The evaluation coordinator will use these questions in the second phase of the evaluation process.

The checklist below summarizes the steps used to identify elements to be evaluated. The checklist can be used as a guideline in planning the activities needed to identify the program elements to be evaluated.

CHECKLIST: IDENTIFICATION OF ELEMENTS TO BE EVALUATED

____ 1. REVIEW PROGRAM DESCRIPTION, PROPOSAL AND MATERIALS.

____ 2. ANALYZE OVERALL PROGRAM GOALS AND THE OBJECTIVES FOR EACH COMPONENT OF THE PROGRAM.

____ 3. PREPARE A LIST OF THE ELEMENTS WITHIN EACH PROGRAM COMPONENT ABOUT WHICH INFORMATION IS NEEDED.

____ 4. SUBMIT PRELIMINARY LIST OF ELEMENTS TO BE EVALUATED TO VESTED INTEREST GROUPS FOR REACTION, EXPANSION AND APPROVAL.

____ 5. PREPARE FINAL LIST OF ELEMENTS TO BE EVALUATED.

____ 6. HAVE FINAL LIST OF ELEMENTS APPROVED BY ADMINISTRATION AND BY VESTED INTEREST GROUPS INVOLVED WITH THE PROGRAM.

____ 7. PREPARE THE SUMMARY OF ELEMENTS TO BE EVALUATED FORM.

Note: The following example illustrates the use of the checklist.

THE SEQUOIA UNIFIED SCHOOL DISTRICT DROPOUT PREVENTION PROGRAM

IDENTIFICATION OF ELEMENTS TO BE EVALUATED

The evaluation coordinator for the Sequoia Dropout Prevention Program reviewed the program descriptions in the original proposal and interviewed the district team that developed the program. When the coordinator completed a summary of these documents and interviews, it became apparent that the focus of the evaluation process from 1986 to 1990 should be the Interactive Counseling Service Component. An evaluation plan for the counseling service component would have to be completed and ready for use by September 1986.

The evaluation coordinator analyzed the Interactive Counseling Service program description and the program materials and interviewed the program administrators and developers. On the basis of this analysis, the coordinator prepared a preliminary list of elements within the Interactive Counseling Services Component to be evaluated. The list of Interactive Counseling Service elements to be evaluated included the following:

1. Identification of 9th grade students in fall of 1986
2. One-to-one counseling services provided in 9th, 10th, 11th, and 12th grades
3. Mentor relationship between counselors and students in 10th grade
4. Counselor role during work-study student experiences in 11th grade
5. Changes in student attitudes toward school
6. Changes in student self-concept
7. Changes in parent attitude toward the school system
8. Changes in academic progress of the students
9. Increase in the involvement of the business community in the programs
10. Effectiveness of the counselor services in having 12th grade students determine their goals
11. Changes in teaching staff attitudes of their responsibilities for keeping the high-risk students in school
12. Changes in the high-risk student graduation rate

The evaluation coordinator was not able to schedule a special meeting of representatives of the sponsoring and participating groups to review and expand this list. Hence, the list was mailed to each of the groups to consider at their May 1986 meeting. The coordinator received their returns early in June and found there was conscensus that elements 1, 2, 3, 4, 5, 6, 7, 10, and 12 should be the primary foci of evaluation. The dropout rate of the students in the program was added to the original list.

The coordinator reviewed the final list of elements to decide when each one had to be evaluated and whether it was process or outcome evaluation. The coordinator then completed a "Summary of the Elements to Be Evaluated Form" for the Interactive Counselor Service Component as presented in Exhibit 2.

EXHIBIT 2: SUMMARY OF ELEMENTS TO BE EVALUATED FOR INTERACTIVE COUNSELING SERVICE

ELEMENTS TO EVALUATE	WHEN TO EVALUATE	PROCESS EVALUATION	OUTCOME EVALUATION
1. 1986 9th grade student identification	October 86	X	X
2. Counseling services provided in 9th, 10th, 11th and 12th grades	May 87 May 88 May 89 May 90	X	X
3. Counselor-student mentor relationship in 10th grade	May 88	X	X
4. Counselor role in student work-study experiences in 11th grade	May 89	X	X
5. Change in student attitude toward school	September 86 May 87 May 88 May 89		X
6. Change in student self-concept	May 87 May 88 May 89 May 90		X
7. Change in parent attitude toward the school system	May 88 May 90		X
8. Change in the dropout rate among students in the program	May 88 May 89 May 90		X
9. Change in the district dropout rate	June 90		X
10. Change in at-risk student posthigh school goals	May 90		X

PHASE TWO: GENERATING EVALUATION QUESTIONS

Evaluation questions set the limits for the evaluation process by defining the information needed by the decision-making groups involved with the program. Never collect data that is not needed—don't generate answers to questions that no one wants answered.

Evaluation questions should address the program's operation, the school environmental factors that interact with it, and its impact upon the students. (Again, a reminder that this text will only address the Interactive Counseling Service Component of the dropout prevention program.) An evaluation process that is focused upon a broad range of questions will provide the program director with information about the efficiency and effectiveness of the program. Without the information about the program's operation, it would be difficult to attribute the changes in students and environment to the program.

The evaluation coordinator analyzes the completed "Summary of Elements to Be Evaluated Form" and produces evaluation questions for each element in the form. This first list of evaluation questions is shared with the program director, the administration, and vested interest groups either through meetings or by written correspondence. The participating persons and groups are asked to add questions to the original list, and all responses are analyzed for overlap and relevance. The evaluation coordinator then prepares a final set of evaluation questions and submits it to the program director for approval.

The steps used in producing evaluation questions for a program are summarized in the following checklist. The checklist can be used as a guide for the generation of evaluation questions.

CHECKLIST: STEPS IN DEVELOPING EVALUATION QUESTIONS

____ 1. REVIEW AND ANALYZE THE PROGRAM COMPONENT DESCRIPTION, THE LIST OF ELEMENTS TO BE EVALUATED, AND THE OVERALL PROGRAM GOALS AND OBJECTIVES.

____ 2. WRITE THE QUESTIONS THAT SHOULD BE ANSWERED ABOUT EACH OF THE PROGRAM ELEMENTS AND GOALS AND OBJECTIVES.

____ 3. SUBMIT THE LIST OF EVALUATION QUESTIONS TO DECISIONMAKERS AND VESTED INTEREST GROUPS FOR REACTION, EXPANSION, AND APPROVAL.

____ 4. COMPLETE THE QUESTION COLUMN OF THE EVALUATION PLAN FORM (EXHIBIT 3).

THE SEQUOIA UNITED SCHOOL DISTRICT DROPOUT PREVENTION PROGRAM

The evaluation coordinator for the Sequoia Dropout Prevention Program studied the list of elements to be evaluated and the program goals and objectives for the counseling services. The coordinator found that data were needed to show that the services described in the program proposal had been implemented as planned and were operating efficiently. The coordinator also knew that data were needed to show the impact of each major counseling service on the at-risk students in the program and the overall impact of the counseling service on the district's dropout rate. Using these two overriding information needs and the "Summary of Elements to Be Evaluated," the coordinator developed a set of questions to provide a focus for the evaluation.

A meeting of representatives of the administration and the vested interested groups was held to review the evaluation questions produced by the evaluation coordinator and to develop additional questions. At this meeting some of the original evaluation questions were refined, others were discarded as unnecessary, and several additional questions were added to the list. The participants in the meeting submitted the list of questions to their agencies for approval. The evaluation coordinator entered the questions on the "Evaluation Plan Form for Interactive Counseling Services" as shown on Exhibit 3.

IIBIT 3: EVALUATION PLAN FOR INTERACTIVE COUNSELING SERVICES

ation Questions	Objective or Element	Experimental Design	Data Sources	Data Analyses	Data Collection Schedule	Report Schedule
CESS EVALUATION						
at-risk students effectively fied and assigned to selors by 10/15/86?	Element 1					
ne percentage of the total -grade class identified and ned to counselors equal or ed the average dropout rate e district over the last ten s?	Element 1					
ll at-risk students in the ram meet with their selors once each week g the ninth, tenth, eleventh twelfth grades?	Element 2, 3, 4					
parents participate in at t ten percent of the weekly nseling sessions?	Element 2, 3, 4, 7					

EXHIBIT 3: EVALUATION PLAN FOR INTERACTIVE COUNSELING SERVICES

Evaluation Questions	Objective or Element	Experimental Design	Data Sources	Data Analyses	Data Collection Schedule	Report Schedule
OUTCOME EVALUATION						
Did a mentor relationship develop between counselor and student by the end of the tenth grade?	Element 3					
Did all students have access to a work-study experience in the eleventh grade?	Element 4					
Did all students enter the twelfth grade with broad goals for post-high school?	Element 5,10					
Did 90 percent of the 1990 class develop personal plans for post-high school requiring a high school diploma?	Objective 1					
Did students follow their plans or adapt them after graduation?	Objective 1					
Did student attitudes toward school reflect positive changes after they participated in the program?	Element 5, 6					
Did the district dropout rate show a significant decline between 1986 and 1990?	Program Goal Element 8, 9					

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PHASE THREE: SELECTING A DESIGN, COLLECTING AND ANALYZING DATA

Evaluation designs are directly related to the evaluation questions and the information needed to answer these questions. The evaluation design, in turn, determines the data collection schedule and the range of procedures that may be used to analyze the data collected. The data summarization and reporting format are influenced by the nature of the audience for the evaluation report. For many evaluation questions, the decisionmakers and vested groups are interested in head counts and percentages; for others they may wish to use averages or proportions to compare the program participants with district, state or national norms. All of these factors must be considered when choosing an evaluation design and data analysis procedures.

This section provides a brief description of evaluation designs and data analysis procedures which could be used with these designs.

EVALUATION DESIGNS

An evaluation design specifies the data to be collected, how it will be collected, when it will be collected, and from whom it will be collected. An appropriate evaluation design will generate the highest quality data possible within the constraints imposed by the real-world environment of a program.

Evaluation designs that could be used for dropout prevention programs are:

ONE-GROUP POSTTEST ONLY	**IN THIS DESIGN, DATA COLLECTED AT THE END OF A PROGRAM ARE COMPARED WITH A CRITERIA SPECIFIED IN A GOAL OR AN OBJECTIVE. IT IS NOT A STRONG DESIGN BUT IN THE REAL WORLD OF AN EDUCATIONAL SYSTEM IT WILL OFTEN PROVIDE THE INFORMATION NEEDED BY THE DECISIONMAKERS AND VESTED INTEREST GROUPS.**
ONE-GROUP PRETEST-POSTEST	**THIS DESIGN IS STRONGER THAN THE ONE-GROUP POSTTEST ONLY BECAUSE DATA COLLECTED AT THE BEGINNING AND AT THE END OF A PROGRAM ARE COMPARED TO SHOW CHANGES IN PARTICIPANTS.**
ONE-GROUP TIME SERIES	**THE ONE-GROUP TIME SERIES DESIGN REQUIRES DATA COLLECTION AT MULTIPLE TIMES DURING A PROGRAM. BY COMPARING INFORMATION COLLECTED OVER TIME, CHANGES IN PARTICIPANTS CAN BE COMPARED TO SHOW IMPROVEMENT DURING A PROGRAM.**

PRETEST-POSTTEST WITH CONTROL GROUP	**THIS TWO-GROUP DESIGN REQUIRES RANDOM ASSIGNMENT OF THE PARTICIPANTS TO A PROGRAM GROUP AND TO A CONTROL GROUP THAT WILL NOT RECEIVE THE PROGRAM. PRETEST AND POSTTEST DATA ARE COLLECTED ON BOTH GROUPS AND THEIR POSTTEST GAINS ARE COMPARED.**
POSTTEST ONLY WITH CONTROL GROUP	**RANDOM SAMPLING AND RANDOM ASSIGNMENT OF PARTICIPANTS TO PROGRAM AND CONTROL GROUPS ARE REQUIRED WHEN USING THIS DESIGN. POSTTEST DATA ARE COLLECTED AND THE SCORES OF THE TWO GROUPS ARE COMPARED.**
NONEQUIVALENT CONTROL GROUP	**THIS DESIGN USES AN INTACT GROUP THAT APPEARS TO BE SIMILAR TO THE PROGRAM GROUP. ANY DATA COLLECTED FROM THE PROGRAM GROUP ARE ALSO COLLECTED FROM THE CONTROL GROUP AND COMPARISONS ARE MADE. FREQUENTLY DATA FROM SCHOOL SYSTEM RECORDS FOR THE CONTROL GROUP ARE COMPARED WITH DATA COLLECTED ON THE PROGRAM GROUP. THIS DESIGN DOES NOT REQUIRE RANDOM SAMPLING AND ASSIGNMENT.**

The control group designs are stronger than the one-group designs and give more freedom to attribute changes in participants to the program, but most of them require random sampling and random assignment to groups. The use of randomization to form experimental and control groups means that program services are withheld from the at-risk students in the control group. For most dropout prevention programs, this is an unacceptable condition.

Any of the one-group designs or the Nonequivalent Control Group design would be appropriate for use in evaluating dropout prevention programs. Although One-Group Posttest Only design is the weakest of the designs, it is an efficient design for process or implementation evaluation.

The One-Group Pretest-Posttest design, the One-Group Time Series design and the Nonequivalent Control Group design should be used for outcome evaluation. When assessing differences in students due to program participation, the One-Group Pretest-Pottest design should be used. To assess the ongoing impact of the program, the One-Group Time Series would be the design of choice. To compare the effect of the program on overall dropout rate, the Nonequivalent Control Group design is appropriate using the district's preprogram five year average dropout rate of similar students as the data for the control group.

Detailed descriptions of the designs described here can be found in the evaluation literature. More complex and sophisticated designs can be found in both the evaluation literature and in resource books on research designs. A source on data analyses and statistical procedures helpful to evaluators is *Research and Education* (Best of Kohn, 1989). When a complex study with true experimental design is planned, the program coordinator should seek expert advice from evaluation consultants.

DATA COLLECTION AND ANALYSIS

The data collection and analysis procedures will vary with the evaluation questions and with the evaluation design selected for each question. The evaluation design dictates the schedule for data

collection while the evaluation questions determine the type of data collection instruments that will be needed and the type of data analysis required. Questions addressing student academic achievement can be answered using standardized achievement tests or curriculum imbedded tests. If questions are asked about changes in student attitudes or self concept, then valid and reliable instruments must be located or constructed.

When a two-group design with randomization and with pre- and posttesting are used, data analyses such as T-Tests and Analysis of Variance can be used to determine significant posttest differences between the control group and the program group. If this is the type of design selected then the program director should have evaluation experts do the statistical analyses needed. Personal computer statistical packages are available that can handle this level of sophistication in data analysis.

The designs most likely to be successfully carried out in the "real world" educational system are any of the one-group designs and the Nonequivalent Control Group design. The choice of a design depends upon the evaluation questions and on the human, financial and time resources available for data collection and analysis.

The One-Group Posttest Only design can be used to compare end of the program participant status with criteria given in program goals and objectives. Data can be analyzed using descriptive statistics such as the percentage of students achieving the criteria stated in each objective. The magnitude of this percentage is easily interpreted for its practical significance.

The One-Group Pretest-Posttest design requires data collection at the start of the program and at the end of the program. The participants' scores on the pretest and posttest are compared to determine the impact of the program. Descriptive statistics can be used to show the pre- and the posttest average scores and the percentage of students whose posttest scores showed the expected level of increase over their pretest scores. Statistics such as the Correlated t-Test can be used to show statistical significance of the difference between the pretest mean and the posttest mean. Chi Square can be used to compare actual gain with expected gains.

The Nonequivalent Control Group design can be used to compare the program group data with baseline data on past classes in the educational system. For dropout prevention programs, this could mean comparing the dropout rate of the program participants with the average dropout rate of the school over the preceding five year period. The magnitude of the difference between the proportion of dropouts in the two groups will be apparent when they are viewed. Use of the Test for Differences in Proportion will provide the statistical significance of the difference between the dropout rate of the two groups.

The One-Group Time Series design requires data collection on the program group at several points in time during the program's operation. If a program is operating for one school year, data could be collected at the start of the program, at the midpoint of the program, and at the end of the program. A program operating over several school years should collect data at the beginning and end of each year. Several approaches to data analysis may be used—the average scores from each testing could be plotted on line graphs to show upward trends during the program, bar graphs could show changes from term to term or data could be displayed in clearly marked tables with narrative interpretations. Exhibit 4 illustrates evaluation design types and related data analyses.

EXHIBIT 4: EVALUATION DESIGN TYPES AND DATA ANALYSES

DESIGN TYPE	DATA ANALYSES
DESIGN 1: ONE-GROUP POSTTEST ONLY	FREQUENCY COUNTS, PERCENTAGES & PROPORTIONS, MEAN SCORES, ETC.
DESIGN 2: ONE-GROUP PRETEST-POSTTEST	DIFFERENCES IN PROPORTION, CORRELATED T-TEST OF DIFFERENCE IN MEANS, CHI SQUARE
DESIGN 3: ONE-GROUP TIME SERIES	FREQUENCY COUNTS, PERCENTAGES & PROPORTION SHOWN FOR TEST SCORES OVER MULTIPLE TESTING DATES, CORRELATED T- TEST OF DIFFERENCE IN MEANS BETWEEN FIRST AND LAST TESTING
DESIGN 4: PRETEST-POSTTEST WITH CONTROL GROUP	ANALYSES OF VARIANCE, INDEPENDENT T-TEST
DESIGN 5: POSTTEST ONLY WITH CONTROL GROUP	DIFFERENCES IN PROPORTION
DESIGN 6: NONEQUIVALENT CONTROL GROUP	DIFFERENCES IN PROPORTION, FREQUENCY COUNTS

DESIGN REQUIREMENTS	DESIGN TYPES 1	2	3	4	5	6
ONE GROUP	Y	Y	Y			
TWO GROUPS				Y	Y	Y
PRETEST		Y		Y		
POSTTEST	Y	Y		Y	Y	Y
SERIES OF TEST			Y			
RANDOMIZATION				Y	Y	

Y=Yes, indicating design types applicable to specific design requirements

The steps to follow in selecting an appropriate evaluation design are summarized in the following checklist. The checklist can be used by an evaluation coordinator as a guideline in identifying the design to be used in an evaluation study.

CHECKLIST: STEPS IN EVALUATION DESIGN SELECTION

___ 1. FOR EACH EVALUATION QUESTION ANSWER THE FOLLOWING ITEMS.

- HOW MANY GROUPS WILL BE IN THE EVALUATION STUDY?
- WHAT KIND OF DATA WILL PROVIDE THE ANSWER TO EACH OF THE EVALUATION QUESTIONS?
- WHEN WILL DATA BE COLLECTED? POSTTEST? PRETEST AND POSTTEST? SERIES OF TESTS OVER TIME?
- WILL RANDOMIZATION BE USED?

___ 2. USE YOUR ANSWERS TO THE ITEMS ABOVE TO SELECT AN EVALUATION DESIGN AND DATA ANALYSIS PROCEDURES AND NOTE ON EXHIBIT 5.

THE SEQUOIA UNITED SCHOOL DISTRICT DROPOUT PREVENTION PROGRAM

SELECTION OF THE EVALUATION DESIGN AND DATA ANALYSIS PROCEDURES

The evaluation coordinator for the Sequoia District Dropout Prevention Program studied the evaluation questions to select an appropriate evaluation design for each one. The coordinator used the checklist given above and then compared the information about each evaluation question with the chart given in the checklist.

The coordinator found that for some of the process evaluation questions there was no need for a design. It was decided that an effort would be made to collect program data and simply report the results in the form of simple percentages or with anecdotal notes to describe the program activities.

The coordinator found that with the exception of the evaluation question asking for a comparison of the 1990 dropout rate of the program at-risk students with the district's average dropout rate for the previous five years, data needed to be collected on only one group. The coordinator selected an evaluation design for each evaluation question and entered the designs in the evaluation plan as illustrated in Exhibit 5 which follows.

EXHIBIT 5: EVALUATION PLAN FOR INTERACTIVE COUNSELING SERVICES

Evaluation Questions	Objective or Element	Experimental Design	Data Sources	Data Analyses	Data Collection Schedule	Report Schedule
PROCESS EVALUATION						
Were at-risk students effectively identified and assigned to counselors by 10/15/86?	Element 1	No design needed				
Did the percentage of the total ninth-grade class identified and assigned to counselors equal or exceed the average dropout rate for the district over the last ten years?	Element 1	Nonequivalent control group				
Did all at-risk students in the program meet with their counselors once each week during the ninth, tenth, eleventh and twelfth grades?	Element 2, 3, 4	One-group time series				
Did parents participate in at least ten percent of the weekly counseling sessions?	Element 2, 3, 4, 7	One-group time series				

EXHIBIT 5: EVALUATION PLAN FOR INTERACTIVE COUNSELING SERVICES

Evaluation Questions	Objective or Element	Experimental Design	Data Sources	Data Analyses	Data Collection Schedule	Report Schedule
OUTCOME EVALUATION						
Did a mentor relationship develop between counselor and student by the end of the tenth grade?	Element 3	One-group posttest only				
Did all students have access to a work-study experience in the eleventh grade?	Element 4	One-group posttest only				
Did all students enter the twelfth grade with broad goals for post-high school?	Element 5,10	One-group posttest only				
Did 90 percent of the 1990 class develop personal plans for post-high school requiring a high school diploma?	Objective 1	One-group posttest only				
Did students follow their plans or adapt them after graduation?	Objective 1	One-group posttest only				
Did student attitudes toward school reflect positive changes after they participated in the program?	Element 5, 6	One-group time series				
Did the district dropout rate show a significant decline between 1986 and 1990?	Program Goal Element 8, 9	Nonequivalent control group				

PHASE FOUR: INSTRUMENTATION

The data collection instruments needed for an evaluation are determined by the kind of information needed to answer each of the evaluation questions. It may be necessary to have a separate instrument for each question, but usually items addressing several questions can be incorporated into one instrument. The items are clustered into subtests and data from each subtest are analyzed separately for individual questions. Some questions can be answered using information from existing student and program records.

The instruments used for data collection fall into several broad categories. Three categories are used for illustration.

MEASURES OF ACADEMIC ACHIEVEMENT

- NORM REFERENCED STANDARDIZED TEST
- CRITERION REFERENCED TESTS
- CURRICULUM EMBEDDED TESTS
- TEACHER MADE ACHIEVEMENT TESTS

MEASURES OF PROGRAM GOALS AND OBJECTIVES

- STUDENT OPINIONAIRES
- ATTITUDE MEASURES
- STUDENT ACTIVITY LOGS
- STAFF DAILY LOGS
- PARENT SURVEYS
- COMMUNITY SURVEYS
- INSERVICE EVALUATION QUESTIONNAIRES

MEASURES OF SCHOOL CLIMATE AND COMMUNITY ENVIRONMENTAL FACTORS

- COMMUNITY/BUSINESS SURVEYS
- RECORDS OF COOPERATIVE ACTIVITIES BETWEEN SOCIAL SERVICE AGENCIES, ADMINISTRATION AND STAFF MEMBERS, PROGRAM STAFF, AND BUSINESS REPRESENTATIVES
- RECORDS OF BUSINESS/COMMUNITY PARTICIPATION
- ATTITUDE MEASURES OF COMMUNITY GROUPS

- ASSESSMENT OF THE SCHOOL CLIMATE
- PUBLIC OPINION POLLS
- RECORDS OF VOLUNTEER ASSISTANTS
- RECORDS OF INTERACTION AMONG PROGRAM STAFF AND COMMUNITY ORGANIZATIONS

Instruments already developed with proven validity and reliability standards would be ideal but may not always be available, therefore, instruments to measure gains in program goals and objectives would need to be constructed by the evaluator and program staff. Items in such instruments should be clearly stated and each item should address one and only one concept. Item response format is determined by the nature of the item. Response choices may be as simple as yes-no or checking each appropriate response. Response format can also be a 4- or 5-point scale with anchor points such as agree-disagree. Scaled responses may also have a specific descriptive statement for each point on the scale determined by the nature of the item.

All newly constructed instruments should be field tested with a group representative of the persons who will be responding to it in the evaluation study. The field test identifies confusing or ambiguous items and items that fail to discriminate among test takers. Ambiguous items should be rewritten. Nondiscriminating items should be discarded or replaced unless you expect the same response from all persons.

The steps to follow in selecting or constructing data collection instruments are summarized in the following checklist. It can be used by an evaluation coordinator as a guide in developing the instrumentation needed for evaluation.

CHECKLIST: INSTRUMENTATION

___ 1. FOR EACH EVALUATION QUESTION, DETERMINE FROM WHOM YOU WILL NEED DATA:

- STUDENTS
- STAFF
- PARENTS
- BUSINESS LEADERS
- WORK EXPERIENCE COORDINATORS
- SOCIAL SERVICE AGENCIES
- COMMUNITY GROUPS
- GENERAL PUBLIC

___ 2. FOR EACH EVALUATION QUESTION LIST THE MAJOR CATEGORIES OF DATA NEEDED:

- ACADEMIC ACHIEVEMENT DATA
- COUNT OF STUDENTS MEETING DEFINED CRITERION LEVELS
- HOURS OF SPECIAL SERVICES RECEIVED
- STUDENT OPINION DATA
- DATA ON ATTITUDINAL CHANGES
- HOURS OF WORK EXPERIENCE
- QUALITY OF WORK PERFORMANCE
- PARTICIPATION LEVEL OF COMMUNITY, BUSINESSES AND SOCIAL AGENCIES

___ 3. IDENTIFY AND OBTAIN INSTRUMENTS AVAILABLE TO COLLECT THE NEEDED DATA

___ 4. IDENTIFY INSTRUMENTS THAT MUST BE DEVELOPED

___ 5. SELECT STAFF TO WRITE ITEMS FOR THE QUESTIONNAIRES

___ 6. CONSTRUCT INSTRUMENTS:

- FIELD TEST INSTRUMENTS
- REVISE INSTRUMENTS ON THE BASIS OF FIELD TEST DATA
- PRODUCE THE INSTRUMENTS TO USE IN DATA COLLECTION

The following example illustrates the use of the instrumentation checklist.

THE SEQUOIA UNITED SCHOOL DISTRICT DROPOUT PREVENTION PROGRAM

SELECTING DATA COLLECTION INSTRUMENTS

The evaluation manager for the Sequoia Dropout Prevention program used the checklist for instrumentation to identify the instruments needed to answer the evaluation questions in the program evaluation plan. The instruments needed included a Student Survey, a Parent Survey, a Counselor Log, and a form for use in gathering existing data from school records. All of these instruments would be constructed and fieldtested by program staff. The manager then listed the instruments in the evaluation plan as shown in Exhibit 6.

EXHIBIT 6: EVALUATION PLAN FOR INTERACTIVE COUNSELING SERVICES

Evaluation Questions	Objective or Element	Experimental Design	Data Sources	Data Analyses	Data Collection Schedule	Report Schedule
PROCESS EVALUATION						
Were at-risk students effectively identified and assigned to counselors by 10/15/86?	Element 1	No design needed	Counselor records Student files			
Did the percentage of the total ninth-grade class identified and assigned to counselors equal or exceed the average dropout rate for the district over the last ten years?	Element 1	Nonequivalent control group	Student records			
Did all at-risk students in the program meet with their counselors once each week during the ninth, tenth, eleventh and twelfth grades?	Element 2, 3, 4	One-group time series	Counselor logs Student surveys			
Did parents participate in at least ten percent of the weekly counseling sessions?	Element 2, 3, 4, 7	One-group time series	Parent survey			

EXHIBIT 6: EVALUATION PLAN FOR INTERACTIVE COUNSELING SERVICES

Evaluation Questions	Objective or Element	Experimental Design	Data Sources	Data Analyses	Data Collection Schedule	Report Schedule
OUTCOME EVALUATION						
Did a mentor relationship develop between counselor and student by the end of the tenth grade?	Element 3	One-group posttest only	Student survey Parent survey			
Did all students have access to a work-study experience in the eleventh grade?	Element 4	One-group posttest only	Counselor logs Student survey			
Did all students enter the twelfth grade with broad goals for post-high school?	Element 5,10	One-group posttest only	Counselor logs Student survey			
Did 90 percent of the 1990 class develop personal plans for post-high school requiring a high school diploma?	Objective 1	One-group posttest only	Counselor logs Student survey Student files			
Did students follow their plans or adapt them after graduation?	Objective 1	One-group posttest only	Follow-up student survey			
Did student attitudes toward school reflect positive changes after they participated in the program?	Element 5, 6	One-group time series	Student survey Parent survey			
Did the district dropout rate show a significant decline between 1986 and 1990?	Program Goal Element 8, 9	Nonequivalent control group	School records			

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PHASE FIVE: COLLECTING, SUMMARIZING AND INTERPRETING DATA

The success of any program evaluation depends upon the efficient collection, analysis, and interpretation of evaluation data. The evaluation coordinator and the program director must develop and execute a plan for the collection, summary, and interpretation of program data. Data collection times and sites must be set up, staff must be trained to collect the data, responsibility for data summarization, and interpretation must be assigned.

DATA COLLECTION

The data collection time schedule is determined by the evaluation design and the data report needs of the decisionmakers. When a design requires pretest data collection before participants receive program services, then the first data collection instrument must be administered as soon as possible after participants are enrolled in a program. Posttests are administered as close as possible to the ending date of the program. When repeated administration of an instrument to the same participants during the program is planned, these test dates should be scheduled at planned intervals and the same sequence maintained every year.

If the design requires that data be abstracted from existing school records or from staff logs, then standardized forms should be used to collect this information.

It is important that all data collection instruments are obtained at least two months before the start of the program. When instruments have to be constructed by the evaluation staff, the target date for completion should be no later than three months before the start of the program to allow time for field testing before printing. At least one month before the program begins, testing dates must be set and test administrators trained.

DATA SUMMARY AND INTERPRETATION

The procedures used to analyze the evaluation data are decided upon when the evaluation design is selected. The data should be submitted for analysis as soon as possible after it is collected. Each statistical approach to data analyses produces summary data that can be displayed in tables, graphs, and charts. The summary data displays will clearly indicate the effect of the program upon participants and narrative interpretations should reflect only the facts supported by the data.

The interpretation of the data summaries is the responsibility of the evaluator coordinator. One approach to data interpretation is to summarize the concepts measured by the instruments and relate them to the program activities and objectives. Data interpretation is always a narrative statement backed up by the summary charts, tables, and figures. It is important that the coordinator does not go beyond the data presented when writing interpretations—you can't say that a program had an effect upon a concept or behavior that wasn't measured during data collection.

The steps to follow for data collection, data summary, and interpretation are summarized in the following checklist. It can be used as a guideline for program directors and evaluators in planning for these procedures.

CHECKLIST: STEPS IN DATA COLLECTION, SUMMARY AND INTERPRETATION

____ 1. EXAMINE THE EVALUATION DESIGN AND SET DATA COLLECTION DATES:

- PRETESTS SHOULD OCCUR A WEEK BEFORE THE PROGRAM SERVICES BEGIN.
- POSTTESTS SHOULD OCCUR NO EARLIER THAN THE FINAL MONTH OF THE PROGRAM AND PREFERABLY DURING THE LAST WEEK OF PROGRAM SERVICES.

____ 2. SET DATES FOR EVALUATION REPORTS.

____ 3. ORDER OR PRINT ALL INSTRUMENTS AND DATA COLLECTION FORMS SO THAT THEY ARE AVAILABLE 12 WEEKS BEFORE TEST DATES. IF THERE ARE PROBLEMS WITH DELIVERY, THE LATEST THAT INSTRUMENTS SHOULD BE AVAILABLE IS ONE MONTH BEFORE THE START OF PROGRAM SERVICES.

____ 4. ONE MONTH BEFORE THE FIRST TEST DATE, TRAIN DATA COLLECTION STAFF IN ADMINISTRATION OF THE INSTRUMENTS.

____ 5. COMPLETE DATA COLLECTION.

____ 6. ANALYZE AND SUMMARIZE DATA FOR EACH EVALUATION QUESTION.

____ 7. PREPARE TABLES, GRAPHS AND CHARTS TO DISPLAY DATA SUMMARIES AND WRITE NARRATIVE DATA INTERPRETATIONS FOR EACH QUESTION.

THE SEQUOIA UNITED SCHOOL DISTRICT DROPOUT PREVENTION PROGRAM

DATA COLLECTION, SUMMARIZATION AND INTERPRETATION

The evaluation coordinator for the Sequoia School District Dropout Prevention Program had completed the evaluation plan for the program and began preparation for implementing it and collecting the data. After listing the instruments and data collection forms, the coordinator determined the appropriate data analysis method, set specific dates for each test and entered this information on the evaluation plan (Exhibit 7). It was apparent that counselor logs would have to be constructed and a data collection format was needed for use in abstracting data from school records. The student survey, parent survey and the student follow-up survey would have to be developed by the evaluator and program staff because these instruments were program specific in the areas to be measured.

EXHIBIT 7: EVALUATION PLAN FOR INTERACTIVE COUNSELING SERVICES

Evaluation Questions	Objective or Element	Experimental Design	Data Sources	Data Analyses	Data Collection Schedule	Report Schedule
PROCESS EVALUATION						
Were at-risk students effectively identified and assigned to counselors by 10/15/86?	Element 1	No design needed	Counselor records Student files	Student count	10/18/86	10/30/86
Did the percentage of the total ninth-grade class identified and assigned to counselors equal or exceed the average dropout rate for the district over the last ten years?	Element 1	Nonequivalent control group	Student records	Comparison of proportions	10/18/86	10/30/86
Did all at-risk students in the program meet with their counselors once each week during the ninth, tenth, eleventh and twelfth grades?	Element 2, 3, 4	One-group time series	Counselor logs Student surveys	Comparison of totals and percentages each year	5/15/87 5/15/88 5/15/89 5/15/90	6/30/87 6/30/88 6/30/89 6/30/90
Did parents participate in at least ten percent of the weekly counseling sessions?	Element 2, 3, 4, 7	One-group time series	Parent survey	Comparison of totals and percentages each year	5/15/87 5/15/88 5/15/89 5/15/90	6/30/87 6/30/88 6/30/89 6/30/90

EXHIBIT 7: EVALUATION PLAN FOR INTERACTIVE COUNSELING SERVICES

Evaluation Questions	Objective or Element	Experimental Design	Data Sources	Data Analyses	Data Collection Schedule	Report Schedule
OUTCOME EVALUATION						
Did a mentor relationship develop between counselor and student by the end of the tenth grade?	Element 3	One-group posttest only	Student survey Parent survey	Item analysis Comparison of percentages	5/15/88	6/30/88
Did all students have access to a work-study experience in the eleventh grade?	Element 4	One-group posttest only	Counselor logs Student survey	Student count	5/15/89	6/30/89
Did all students enter the twelfth grade with broad goals for post-high school?	Element 5,10	One-group posttest only	Counselor logs Student survey	Analysis of student plans to identify goals	9/20/89	10/15/89
Did 90 percent of the 1990 class develop personal plans for post-high school requiring a high school diploma?	Objective 1	One-group posttest only	Counselor logs Student survey Student files	Comparison of achieved percentage with criteria	5/28/90	6/30/90
Did students follow their plans or adapt them after graduation?	Objective 1	One-group posttest only	Follow-up student survey	Comparison of achievement with plans	4/20/91	6/30/91
Did student attitudes toward school reflect positive changes after they participated in the program?	Element 5, 6	One-group time series	Student survey Parent survey	Trend analysis comparison of mean scores	9/15/86 5/15/87 5/15/88 5/15/89	6/30/87 6/30/88 6/30/89 6/30/90
Did the district dropout rate show a significant decline between 1986 and 1990?	Program Goal Element 8, 9	Nonequivalent control group	School records	Comparison of proportions	5/15/90	6/30/90

A student survey was constructed that had four subsections; each section addressed an evaluation question. The parent survey was designed to assess three of the evaluation questions. A counselor log and a student data form were designed to collect the specific data from counselor records and from school records to answer five of the evaluation questions. All of the instruments were field-tested in May 1986 and were revised on the basis of field-test data. All instruments were printed and delivered by October 1986.

The evaluation coordinator had identified a central office person with expertise in data preparation, analyses, and summarization. As soon as data collection on each testing date was completed, the data were sent to the central office person for analysis. The data analyses and summaries were returned to the evaluator for review. The coordinator then prepared visual displays of the data and data interpretations for each of the evaluation questions. Interim evaluation reports were delivered to the decisionmakers and vested interest groups at the end of each school term, and the final evaluation report was delivered in June 1990.

Sample data summaries and interpretations are given for two of the evaluation questions in the evaluation plan for the Sequoia Dropout Prevention Program. The evaluation question is presented followed by a description of the design and the data collection and analysis procedures. Visual presentation of the data summaries are shown with narrative data interpretations needed.

A SAMPLE DATA SUMMARY AND INTERPRETATION

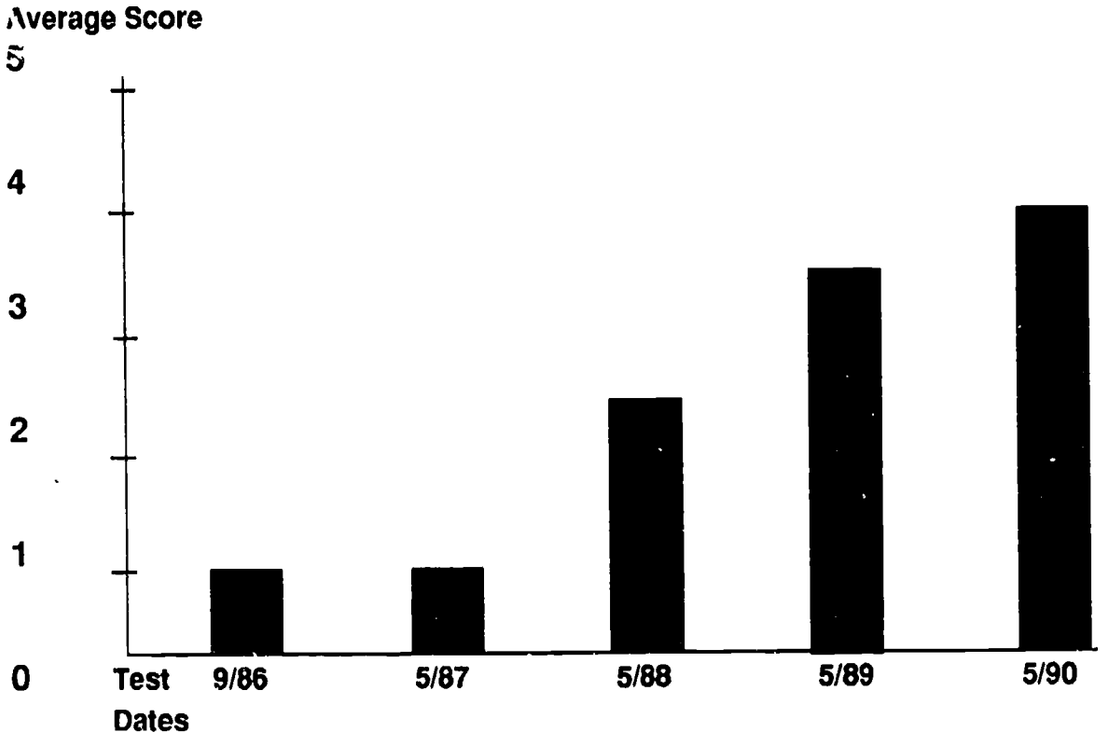
EVALUATION QUESTION

Was there a positive change in student attitudes toward school between entry into the program and high school graduation?

PROCEDURES

The at-risk students in the Sequoia Dropout Prevention Program received intense interactive one-to-one counseling services each week during their four years in high school. Their attitude toward school was measured by items in the student survey administered at the first counseling session in January 1987 and then in May of each school year from 1987 to 1990. The data collected over the four year period are displayed in Exhibit 8.

EXHIBIT 8: CHANGES IN AT-RISK STUDENT ATTITUDE TOWARD SCHOOL 1986-1990



Interpretation of Student Attitude Data

From the data displayed in Exhibit 8, one can see that the attitude toward school of the at-risk students in the Dropout Prevention Program at the Sequoia High School did change from a very negative attitude to a highly positive one. In 1986-87, the first year that the students were receiving the interactive counseling services there was no change in the attitude of the students. In 1986, the average score on the attitude-toward-school measure was 1 on a 5 point scale (5 was the highest possible score and 1 the lowest possible score). By the end of May 1988, the average score on the attitude toward school measure had moved up to 2.5.

In May 1989, the average attitude-toward-school score of the at-risk students in the program had reached 3.5 and in May 1990 this average score was 4, indicating a highly positive attitude toward school.

EVALUATION QUESTION

Was there a significant drop in the district dropout rate between 1986 and 1990?

PROCEDURES

A test of difference in proportions was used to assess the change in district dropout rates between 1986 and 1990. The district average dropout rate for 1981-86 was used as the baseline proportion and the dropout rate for 1990 was compared with the baseline data.

INTERPRETATION

A review of Exhibit 9 shows that the dropout rate in the district decreased by 60 percent between 1986 and 1990. This difference had practical significance for the district in that it showed that the at-risk students in the program were staying in school and graduating. With this great a difference in proportion it was not necessary to test for statistical significance but the evaluation manager did run the Test for Difference in Proportions and found the difference statistically significant at the .05 level. This statistically significant difference supported the evidence that the Dropout Prevention Program was keeping more at-risk students in high school until graduation.

EXHIBIT 9: COMPARISON OF DISTRICT FIVE YEAR AVERAGE DROPOUT RATE AND THE 1990 DROPOUT RATE

District Average Dropout Rate	1990 Dropout Rate	Difference
.25	.10	.15*

**Significant at the .05 level*

PHASE SIX: THE EVALUATION REPORT

Every evaluation requires reporting the findings to decisionmakers, vested interest groups, and the general public. There are strategic points during the program operation when interim evaluation reports are needed for operational decisions and program adjustment. The sponsoring and funding agencies will require reports on progress toward program goals during its operation and when the participants complete the program.

The evaluator has the primary responsibility for producing all of the evaluation reports and delivering them to the program director. The distribution, publication and presentation of the evaluation reports are the program director's responsibility, but the evaluator is usually involved in the presentation of the reports.

An evaluation report is organized around the evaluation questions and should contain the following sections:

1. a brief description of the program and its goals and objectives;

2. the evaluation questions;

3. for each evaluation question:

   - a description of the evaluation design;

   - a description of the data collection procedures for each target group including instrumentation, data analysis procedures and the rationale for their use;

   - the data summaries, interpretation and illustrative visual displays of the data;

   - summary of the findings; and

4. an executive summary of the evaluation report that can be distributed independent of the total report.

The language in an evaluation report should be clear, concise, and free of highly technical terms and educational jargon. The data summaries and interpretations should be easily understood by readers without an evaluation background. An effective evaluation report will be understood by the target audiences without additional explanations from the evaluator.

Decisionmakers should be able to justify program changes, continuation, expansion, or termination on the basis of the data presented in the evaluation report.

A checklist to use as a guide in preparing an evaluation report follows.

CHECKLIST: EVALUATION REPORT PREPARATION

___ 1. WRITE A BRIEF DESCRIPTION OF THE PROGRAM, ITS GOALS AND OBJECTIVES.

___ 2. LIST ALL EVALUATION QUESTIONS.

___ 3. SORT ALL DATA SUMMARIES AND INTERPRETATIONS BY EVALUATION QUESTIONS.

___ 4. FOR EACH EVALUATION QUESTION, WRITE A DESCRIPTION OF THE EVALUATION DESIGN, DATA COLLECTION PROCEDURES, DATA ANALYSES, DATA SUMMARIES AND INTERPRETATION.

___ 5. WRITE THE EXECUTIVE SUMMARY OF THE EVALUATION REPORT.

___ 6. SUBMIT A DRAFT OF THE EVALUATION REPORT TO THE PROJECT MANAGER FOR REACTION AND APPROVAL.

___ 7. MAKE REVISIONS AND REFINEMENTS OF DRAFT AND SUBMIT TO PROJECT MANAGER FOR FINAL APPROVAL.

___ 8. PREPARE THE FINAL COPY OF THE EVALUATION REPORT AND TURN IT OVER TO THE PROJECT MANAGER FOR PUBLICATION AND DISTRIBUTION.

SUMMARY OF THE EVALUATION PROCESS

This section presented the six steps in the evaluation process and a checklist and illustrative examples for each step. The examples focused upon only one component of a dropout prevention program and its impact upon students. When evaluating a program in a real-world situation, all components would be assessed and their impact upon parents, teachers, overall institutional attitude toward the high-risk student, and community involvement would be measured.

The next section will provide some direction in assessing overall program outcomes that may not have direct student impact, but do influence program direction.

EVALUATING OVERALL IMPACT OF THE DROPOUT PREVENTION PROGRAM

The preceding sections presented the evaluation process in detail. The same process and the checklist for each of the six evaluation phases should be used to measure the operation and impact of all components (e.g., community involvement, parental interest,etc.) of a dropout prevention program.

The degree of community involvement and its impact upon the public acceptance of a responsibility and a role in preventing high-risk student dropouts should be evaluated. Some of the factors to address in evaluating community involvement are:

- interactive communication processes and public information meetings;
- procedures used to involve community groups in planning, decision-making and program operation;
- day-to-day use of external social service agencies in the community; and
- participation of private sector employers in evaluating the labor market requirements that impact upon the education needed by high risk students.

There are many other school climate factors unique to an individual program and unique to the community environment that may be critical to the success of a dropout prevention program. It is the program director's responsibility to identify these factors and to work with the evaluation manager in developing the evaluation processes to be used to assess the impact of these factors upon the dropout rate.

Another important factor that affects the dropout rate among high-risk students is the overall climate of the educational institution. Inservice for teachers and other educational staff persons is also an essential component in a dropout prevention program. The attitude of teachers and other staff persons toward the high-risk student and toward the special services available for these students are important factors affecting the successful operation of a dropout prevention program and must be evaluated. Some of the variables to be considered in evaluating the impact of the dropout prevention program upon the institutional climate and upon teacher and staff attitudes are:

- changes in teacher and staff perception of the probability of the high-risk student completing school;
- changes in teacher and staff willingness to support the special services to be provided for the high-risk students;
- the degree of support provided for the program operation by the principal or other school administrator; and
- the value put upon the program by school staff.

This list of possible factors to be evaluated when assessing the impact of a dropout prevention program upon the educational staff and the overall climate of a school or community is just a sampling of the possible variables that could be examined. The factors to be considered in designing an evaluation plan would be developed by a program director and evaluation manager and would be unique to an individual program.

The evaluation process described in this handbook is generic and can be adapted and used to produce an evaluation plan for all components in a dropout prevention program including inservice workshops for staff, employers' evaluation of work study students' work habits and the adequacy of their education, the effectiveness of the participation of community group volunteers in the program, and the parental attitude toward the dropout prevention and their sense of involvement and responsibility for the program's success.

In most cases the evaluation coordinator will need to develop instruments for use in the evaluation processes. Sample instruments are provided in the appendices. The sample instruments provide a starting point for developing program specific instruments for a dropout prevention program.

EVALUATION IN RETROSPECT

The processes described in this handbook presented the important phases of evaluation. It is basically a process used everyday–when considering major purchases such as an automobile, when choosing a preschool for a child, in deciding what T.V. shows are worth watching. All of these daily living choices require you to set criteria, ask evaluation questions, collect information make comparisons based on this information, and then make an informed decision. When applying the procedures described in this handbook, the evaluator is applying these everyday common sense evaluation skills to a more complex situation using a higher level of sophistication in data collection and reporting.

Remember, the evaluation of a program is a proven method of validating its success and its value to the educational systems, to the community, to the business community, and most important of all, to the at-risk students. For a program director there is one cardinal rule to live by—***Evaluation: Don't operate a program without it.***

APPENDIX A

SAMPLE INSTRUMENTS

This appendix contains sample draft instruments that could be used to evaluate a dropout prevention program.

SEMANTIC DIFFERENTIAL

The Semantic Differential uses a set of polar adjectives to measure attitude toward an individual concept. It is supported by research as a valid technique to assess attitude.

The subject or concept addressed in the Semantic Differential is printed at the top of the page and the polar adjectives are given below on a 7 point scale with one as the lowest or most negative point. However, on the instrument itself don't put all the positive or negative adjectives on the same side of the scale. Mix them up so there are positive and negative adjectives on both the right and left side of the page.

Before scoring the Semantic Differential you must reverse the scale for the negative adjectives on the right side of the page. For instance, the scale values in ( ) are the values to be used when scoring this adjective set.

Glad	___	___	___	___	___	___	___	Sad
	1	2	3	4	5	6	7	
	(7)	(6)	(5)	(4)	(3)	(2)	(1)	

Sample instruments are illustrated as Appendices A-1 and A-2. The list of polar adjectives below can be used to develop other instruments.

Calm	Anxious
Smart	Stupid
Satisfied	Frustrated
Ordinary	Special
Careful	Careless
Sunny	Cloudy
Successful	Unsuccessful
Exciting	Boring

APPENDIX A-1

Identification Information

Name/ID No. _____ Date _____

School _____ Class _____

PERSONAL FEELING

Put an X on the line closest to the word that tells how you feel about yourself.

Ordinary	____	____	____	____	____	____	____	Special
	1	2	3	4	5	6	7	
Smart	____	____	____	____	____	____	____	Stupid
	1	2	3	4	5	6	7	
Careless	____	____	____	____	____	____	____	Careful
	1	2	3	4	5	6	7	
Useful	____	____	____	____	____	____	____	Useless
	1	2	3	4	5	6	7	
Happy	____	____	____	____	____	____	____	Sad
	1	2	3	4	5	6	7	
Warm	____	____	____	____	____	____	____	Cold
	1	2	3	4	5	6	7	
Successful	____	____	____	____	____	____	____	Unsuccessful
	1	2	3	4	5	6	7	
Sunny	____	____	____	____	____	____	____	Cloudy
	1	2	3	4	5	6	7	
Exciting	____	____	____	____	____	____	____	Boring
	1	2	3	4	5	6	7	
Fast	____	____	____	____	____	____	____	Slow
	1	2	3	4	5	6	7	

APPENDIX A-2

Identification Name/ID No. _____ Date _____

Information School _____ Class _____

SCHOOL

Put an X on the line closest to the word that best describes how you feel about school.

Good	___	___	___	___	___	___	___	Bad
	1	2	3	4	5	6	7	
Slow	___	___	___	___	___	___	___	Fast
	1	2	3	4	5	6	7	
Unimportant	___	___	___	___	___	___	___	Important
	1	2	3	4	5	6	7	
Easy	___	___	___	___	___	___	___	Hard
	1	2	3	4	5	6	7	
Happy	___	___	___	___	___	___	___	Sad
	1	2	3	4	5	6	7	
Stupid	___	___	___	___	___	___	___	Smart
	1	2	3	4	5	6	7	
Sweet	___	___	___	___	___	___	___	Sour
	1	2	3	4	5	6	7	
Comfortable	___	___	___	___	___	___	___	Anxious
	1	2	3	4	5	6	7	
Frustrated	___	___	___	___	___	___	___	Satisfied
	1	2	3	4	5	6	7	
Exciting	___	___	___	___	___	___	___	Dull
	1	2	3	4	5	6	7	
Angry	___	___	___	___	___	___	___	Calm
	1	2	3	4	5	6	7	

SAMPLE SURVEYS

The student, parent and community surveys are questionnaires focused on specific topics or issues about which information is needed. The content of such surveys will vary with the characteristics of a program as well as its goals and objectives. Appendices A-3 through A-5 illustrate how these kinds of surveys may be designed.

APPENDIX A-3

Identification Name/ID No. _____ Date _____

Information School_____ Class_____

Student Survey

Please respond to each item. There are no right or wrong answers. Mark the responses that show your opinion.

1. If you want a good job you have to graduate from high school.

___ agree ___ not sure ___ disagree

2. I enjoy going to school.

___ never ___ sometimes ___ all the time

3. If I could choose between going to high school and getting a job,

___ I'd stay in school ___ I'd drop out and get a job

4. My parents:

___ **don't** care if I finish high school or not ___ want me to finish high school

5. The counselor in my school:

___ doesn't know me at all ___ meets with me **only** when I'm in trouble

___ meets with me only to set up my classes ___ meets with me every week

6. If I drop out of school my parents:

___ will be angry ___ will say it's o.k. __ will be glad because I'll get a job

7. Finishing high school is:

___ stupid ___ smart ___ necessary

___ what I want to do ___ not in my plans

8. When I have a problem in school I would get help from:

___ my parents ___ the counselor

___ my friends ___ no one

9. I'm staying in school:

___ until I'm old enough to quit ___ as long as I can keep up with the studies

___ as long as my friends do ___ as long as my parents make me ___ until I get a diploma

10. I wish I could:

___ quit school and get a job ___ get better marks in school

___ find someone to help me study ___ stay in school and still have a job

11. The time I spend in school is:

___ a waste of time ___ very frustrating

___ time I'd get paid for if I had a job ___ helping me get ready for high school graduation

12. Staying in school and graduating:

___ will be a way to meet people from the business world

___ won't help me get to know the people who give you jobs

13. Briefly describe what you expect to be doing five years from now.

APPENDIX A-4

Identification Name/ID No. _____ Date _____

Information School _____ Class _____

Parent Survey

We are asking for your opinion about high school and your role as a parent. Please check the response that best describes your opinion or knowledge about each item.

1. High school graduation is not needed to get a job.

_____ agree _____ not sure _____ disagree

2. Graduation from high school is up to the student—parents have no part in it.

_____ agree _____ not sure _____ disagree

3. You need a high school diploma plus additional training or college to get a job with a future.

_____ agree _____ not sure _____ disagree

4. Parents should do everything they can to help their children finish high school.

_____ agree _____ not sure _____ disagree

5. Earning money to support yourself is more important than finishing high school.

_____ agree _____ not sure _____ disagree

6. If my child wants to quit school, it is the school's job to stop him/her from doing it.

_____ agree _____ not sure _____ disagree

7. If my child talked about dropping out of school: (Check all appropriate responses.)

_____ I'd go to his/her counselor for help

_____ There's no one at the school I could go to for help

_____ I'd do everything I could to keep him/her in school

8. There isn't anything I could do if my child dropped out of school.

_____ agree _____ not sure _____ disagree

9. The school and the parent(s) should work together to stop students from quitting school.

_____ agree _____ not sure _____ disagree

10. If my child's school had a dropout prevention program:

_____ I'd support it but I don't have time to go to meetings.

_____ I'd support it and be actively involved.

_____ It would be a waste of time

APPENDIX A-5

Identification Name/ID No. _____ Date _____

Information School _____ Class _____

Community Survey

We would like to know what your opinion is about the problem of high school dropouts in our community. Please complete this survey and return it to: (person and address) by (date).

Check all that apply to you.

Status	Age	Ethnicity
___ Head of Household	18-25 ___	Black ___
___ Registered Voter	26-30 ___	White ___
___ Business Owner	31-35 ___	Asian ___
___ Employed	36-40 ___	Hispanic ___
___ Retired	41-45 ___	Other: (Specify)
___ Professional Person	46-50 ___	_____
___ On Public Assistance	51-55 ___	
___ Unemployed		

Educational Information

	Number of Children	
___ High School Graduate		
___ College Graduate	Age	No
___ Some College	5-11	__
___ Technical Training	12-14	__
___ Trade School	15-16	__
___ Not a High School Graduate Highest Grade Completed _____	17-18	__
	19 & Over	__

Marital Status

___ Single ___ Married

___ Head of Household ___ Widowed - Divorced

1. High school dropouts are a school problem not a community problem.

___ agree ___ not sure ___ disagree

2. A high rate of high school graduation will benefit the economy of this community.

___ agree ___ not sure ___ disagree

3. A dropout prevention program should be part of our local school system.

___ agree ___ not sure ___ disagree

4. A high rate of high school dropouts costs the taxpayers money.

___ agree ___ not sure ___ disagree

5. A community-business-school partnership is needed to build a successful dropout prevention program.

___ agree ___ not sure ___ disagree

6. The community, businesses and parents can help prevent high school dropouts by:

___ serving in an advisory role for the dropout prevention program

___ actively participating in planning the dropout prevention program

___ contributing resources such as materials and equipment for special courses

___ teaching occupational skills to high school students

___ serving as mentors for the at-risk students

___ establishing a communications network between school and community

APPENDIX B

EVALUATION QUESTIONS FOR SCHOOL CLIMATE AND COMMUNITY ENVIRONMENTAL FACTORS

This appendix contains broad-based evaluation questions and suggested data collection instruments that could be used to collect information on the environmental factors in a dropout prevention program.

EVALUATION QUESTIONS AND ELEMENTS TO BE EVALUATED

1. ***School Climate***

Question: How do the administration, staff, and students view the Dropout Prevention Program?

Elements to evaluate:

- Acceptance of the program
- Willingness to participate
- Enthusiasm for program
- Expectation for success

Instruments to use:

- Interview schedule
- Attitudinal measure
- Logs of attendance at meetings
- Logs of participation in program
- Surveys

2. ***Community Involvement***

Question: Is there evidence of a Community-Business-School participatory partnership?

Elements to evaluate:

- Contribution of time from community, business and school leaders to the program
- Participation of business and community persons in district activities
- Financial and material contributions from community agencies and businesses to the operation of the program
- Accessibility of businesses and the community agencies to program staff and students

Instruments to use:

- Surveys and questionnaires
- Minutes of joint meetings and activities
- Logs of participation levels
- Interview schedules

3. ***Program Management***

Question: Was there a detailed management plan for the program that spelled out the lines of authority, communication channels, and delegated responsibility for specific tasks with a specified timeline for completion?

Elements to evaluate

- Authority of program manager
- Scheduling and completion of tasks
- Recordkeeping
- Ongoing evaluation of operations
- Crisis management
- Problem resolution
- Financial stability
- Material procurement
- Interagency communication

Instruments to use:

- Program records
- Meeting summaries
- Observations
- Interviews
- Activity logs

4. ***School Administrators - Staff Relationships***

Question: Did the school administrator play a benign-neglect role or was he/she a supportive, participating leader who regularly interacted with the staff?

Elements to evaluate:

- Quality and climate of staff meetings
- Attitude of staff toward administrator
- Degree of facilitative action on part of the administrator
- Number/Kind/Effect of administrative delays in program operation
- Administrator's self-image

Instruments to use:

- On-site observations
- Interviews with staff
- Interviews with administrator
- Staff meeting minutes
- Records of program operation
- Analyses of program delays
- Staff-Administrator questionnaires

5. ***Public Relations***

Questions: Was there a successful public relations effort that involved the community-businesses and school? What was its impact?

Elements to evaluate:

- Newsletters
- Public meetings
- Brochure(s)
- Formal presentations of the program to the public

Instruments to use:

- Log of public relations production meetings: Who participated?
- Contribution records supporting community-business-school cooperation in public relations
- Telephone response to TV-Radio announcements
- Community surveys
- Newspaper surveys
- Telephone surveys

6. ***Curriculum***

Question: How well was the dropout prevention program integrated into the total curriculum?

Elements to evaluate:

- Degree to which dropout prevention permeates the curriculum
- Staff awareness that the high-risk students must be considered in instructional planning
- Records of curriculum committee meetings
- Analyses of K-12 curriculum guides for adaptive materials and activities for the at-risk student

Instuments to use:

- Review minutes of curriculum committee meetings
- Review District course descriptions
- Review District graduation and promotion policies
- Interview curriculum committee staff
- Interview parents about student course selections

7. ***School Mission/Philosophy***

Question: Is the problem of the at-risk student specifically addressed in the school's mission statement?

Elements to evaluate:

- The language in the school's mission or philosophy statement
- Relationship between the dropout prevention program goals and the mission statement
- Actions of the school board
- Administrative decisions by the district administrators

Instruments to use:

- Checklist of critical concepts to be included in the mission statement
- Checklist of concepts in the dropout prevention program goals for comparison with mission statement
- Administration-Staff questionnaire focusing on the mission statement content relative to high-risk students
- Review of school board minutes

8. ***Program Goals and Objectives***

Question: Do the operating program's activities and procedures reflect the stated goals and objectives?

Elements to evaluate:

- Records of program activities and procedures
- Staff perception of program's goals and objectives
- Administration's perception of program goals and objectives

Instruments to use:

- Checklists of goals and objectives
- Staff interviews
- Staff questionnaires
- Administration interviews
- Administration questionnaires

9. ***Social Service Agencies***

Question: Was there official coordination of program services with external social service agencies to provide at-risk students access to all resources available for them?

Elements to evaluate:

- Ongoing, day-to-day participation of social service representatives in the program
- The number of eligible at-risk students receiving:
    - * Aid to dependent children
    - * Free lunches
    - * Prenatal care
    - * Day Care
    - * Transportation
    - * Health Services
    - * Remediation
    - * Psychiatric aid
    - * Therapy

Instruments to use:

- Summaries of school referrals to social service agencies
- Student interviews
- Parent interviews
- Summaries of social service agency logs/records of resources provided
- Summary of day-care use, parental and transportation services
- Follow-up checklist of medical referrals and services
- Interview with directors of social service agencies focusing on success of coordination as noted in their federal reports

APPENDIX C: EXPANDED EVALUATION CHECKLISTS

EVALUATION PHASE I

IDENTIFYING EVALUATION ELEMENTS

Step 1. Review program description, proposal and materials.

- List the critical program components and elements that appear in the program description, proposal and materials.

Step 2. Analyze the program goals and objectives for each component of the program.

- Add the critical elements and concepts in goals and objects to the list of *Elements to be Evaluated.*
- Combine similar or overlapping items on the list.

Step 3. Prepare a preliminary list of *Elements to be Evaluated.*

Step 4. Submit the preliminary list of *Elements to be Evaluated* to the vested interest groups for reaction, expansion and approval.

- Schedule meetings with representatives of the vested groups.
- Mail copies of the preliminary list of *Elements to be Evaluated* to the vested interest groups.
- Hold meetings with representatives of the vested interest groups and discuss the *Elements to be Evaluated*, elicit additional information needs of each group and their approval or rejection of any of the items on the preliminary list of items to be evaluated.

(ALTERNATIVE: If a face-to-face meeting cannot be held, have the vested interest groups mail in their responses to the preliminary list of objectives as well as their information needs.)

Step 5. Prepare the final list of *Elements to be Evaluated.*

- Analyze input from the vested interest groups for overlap and duplication.
- Prepare the final list of elements to evaluate using both the vested interest group contributions and the preliminary list of *Elements to be Evaluated.*
- Edit the final list for duplication and delete repetitive items.
- Prepare copies of the final list for mailing to the vested interest groups.

Step 6. Have the final list of *Elements to be Evaluated* approved by administration and by the vested interest groups involved with the program.

- Meet with the administration and present the final list of *Elements to be Evaluated.*
- Have the administration act to approve the final list for implementation.
- Send the approved final list to the vested groups for their approval.

Step 7. Prepare the Summary of *Elements to be Evaluated* Form.

- Enter the items from the approved final list of elements to evaluate on the form:

SUMMARY OF ELEMENTS TO BE EVALUATED			
ELEMENTS TO EVALUATE	**WHEN TO EVALUATE**	**PROCESS EVALUATION**	**OUTCOME EVALUATION**

EVALUATION PHASE II

GENERATING EVALUATION QUESTIONS

Step 1. Analyze the program proposal, description and materials as well as the *Summary of Elements to be Evaluated Form.*

- List questions that should be answered about the program's implementation and operation.
- List questions that should tell about the impact of the program on students and upon environmental factors.
- Relate each question to the element(s) in the *Summary of Elements to be Evaluated.* (Some questions may be related to more than one element.)
- Review your set of questions for duplication and overlap.

Step 2. Write the list of questions that should be answered about each of the program's elements, goals and objectives.

- Compare the refined set of questions produced in Step 1 with the program elements, goals and objectives.
- Review all of the evaluation questions for duplication and overlap and delete unnecessary questions.
- Make copies of refined set of evaluation questions to share with administration and vested groups.

Step 3. Submit the list of evaluation questions to decisionmakers and vested groups for reaction, expansion and approval.

- Meet with the administration to present the evaluation questions.
- Obtain from the administration any additional questions they need answered about the program.
- Revise the list of evaluation questions to include information needs of the administrators.
- Obtain final approval of the revised set of questions from the administration.
- Schedule a meeting of representatives of the vested interest groups to review the administration-approved questions.
- Meet with the representatives of the vested interest groups to discuss administration-approved questions and to get any additional questions about the program that they want answered.

- Analyze the administration-approved evaluation questions and the additional questions from the vested groups for duplication and overlap.
- Prepare the final list of evaluations that will be used to drive the evaluation procedures.
- Submit the final list of evaluation questions to the administration for approval and then to the vested interest groups for their endorsement.

Step 4. Enter the final list of evaluation questions in the *Evaluation Plan Form.*

- Enter the evaluation questions in the first column of the *Evaluation Plan.*
- For each evaluation question list the program goals, objectives and elements to be answered by that question in column 2 of the *Evaluation Plan* (see pages 12 and 13).

EVALUATION PHASE III

SELECTING A DESIGN, COLLECTING AND ANALYZING DATA

Step 1. For each evaluation question answer the following items:

- How many groups will be in the evaluation study?
- What kind of data will provide the answer to each of the evaluation questions?
- When will data be collected?
  - ... Posttest?
  - ... Pretest and posttest?
  - ... Series of tests over time?
- Will randomization be used?

Step 2. Use your answers to the items in Step 1 and the chart below to select an evaluation design and data analysis procedures appropriate for each evaluation question.

DESIGN REQUIREMENTS	DESIGN 1	2	3	4	5	6
ONE GROUP	Y	Y	Y			
TWO GROUPS				Y	Y	Y
PRETEST		Y		Y		
POSTTEST	Y	Y		Y	Y	Y
SERIES OF TESTS			Y			
RANDOMIZATION				Y	Y	

Y=YES

Design 1: One Group Posttest Only

Data analyses: frequency counts, percentages/proportions, mean scores, etc.

Design 2: One Group Pretest-Posttest

Data analyses: differences in proportion, correlated T-test of difference of means, Chi Square

Design 3: One Group Time Series

Data analyses: frequency counts, percentages/proportion of students at each score level over multiple testing dates, correlated T-test of difference in means between first and last testing

Design 4: Pretest-Posttest with Control Group

Data analyses: Analyses of Variance, Independent T-test

Design 5: Posttest only with Control Group

Data analyses: differences in proportion

Design 6: Nonequivalent Control Group

(Control group could be baseline data from school records of similar students.)

Data analyses: differences in proportion, frequency counts

EVALUATION PHASE IV

INSTRUMENTATION

Step 1. For each evaluation question, determine from whom data will be collected.

- Students
- Staff
- Parents
- Business Leaders
- Work Experience Coordinators
- Social Service Agencies
- Community Groups
- General Public

Step 2. For each evaluation question list the major categories of data needed.

- Academic achievement data
- Count of students meeting defined criterion levels
- Hours of special services received
- Student opinion data
- Data on attitudinal changes
- Hours of work experience
- Quality of work performance
- Participation level of community, businesses and social service agencies

Step 3. Identify and obtain instruments available to collect the data needed.

- Check with other similar programs to find out if they have the type of data collection instruments that you need.
- Contact test publishers and ask for a listing of tests that would be suitable for your purposes.

- Search the literature for reports on successful dropout prevention programs for instruments used in evaluation.
- Make a list of all instruments required and order sample copies to examine.
- Analyze the sample instruments and select the ones that will be used.
- Order the instruments so that delivery will be at least three months before the testing date.

Step 4. Identify any instruments that must be developed.

- Review the *Evaluation Plan* and list all the types of instruments listed in the data source column.
- Compare the data needs listed in the *Evaluation Plan* with the set of instruments ordered.
- List all data needs that are not covered by the instruments identified and ordered. Instruments will have to be developed to collect this data.

Step 5. Select staff to write items for the instruments.

- Identify staff members who have a working knowledge of the evaluation.
- Meet with staff persons identified and discuss the need for program-developed instruments.
- Train the selected staff persons in item writing.

Step 6. Construct instruments.

- Staff persons write items for each instrument.
- Review items for ambiguity.
- If any item or its response set is asking for information about more than one thing, then break that item into two or more items.
- Combine the items into instrument format.
- Produce draft sets of the instruments.
- Field test the draft instruments by having a small group of persons respond to each one.
- On the basis of the field test revise the items to improve clarity.
- Produce the final copies of the instruments so that they are available at least three months before the date of the testing.

EVALUATION PHASE V

COLLECTING, SUMMARIZING AND INTERPRETING DATA

Step 1. Examine the evaluation design and set data collection dates.

- Pretest...should be scheduled the week before the program begins but it may have to be given during the first week of the program.
- Posttest...should be given no earlier than the last month of the program and preferably during the last week of the program.
- Time Series...multiple administration of the same instrument should be scheduled over equal time periods during the program (every 3 months, every 6 months, first day-midterm-end, etc.).
- Enter data collection dates into the program schedule.
- Set instrument delivery dates to be sure all instruments will be available at least 12 weeks before the data collection dates set for their administration. (The latest date possible for instrument availability is one month before data collection date.)

Step 2. Set the schedule for evaluation reports.

- Review the evaluation plan and make a list of all of the evaluation reports needed and their delivery dates.
- Set up a procedure for delivery of data collection results for data analysis.

Step 3. Train the data collection staff.

- Sele or hire data collection staff.
- Train the data collection staff to administer the instruments. This training should be done at least one month before the scheduled testing date and should include practice administration of each instrument.
- Train substitute data collection staff to replace the regular data collection staff in case of illness, etc.

Step 4. Collect data.

- Reserve the on-site locations for the test administration.
- Deliver instruments to data collection sites the week of the test date.
- Schedule the pick up of the data from the test sites on the day of the instrument administration.

Step 5. Analyze and summarize the data for each evaluation question.

- Select or hire the person(s) who will process, analyze and summarize the data for the program.
- Set dates for delivery of data to the data analysis staff.
- Set dates for delivery of the data analysis and computer data summaries.
- Deliver the data to the data analysis staff as soon as it has been collected.
- Review the data analysis and computer data summaries to locate the data needed to prepare the tables and other displays for evaluation reports.

Step 6. Prepare tables, graphs and charts to display the data summaries needed for each evaluation question.

- Design the format for the data displays to be included in the evaluation report.
- Use the data analysis and computer summaries to select the information that will be used in each table, chart, graph or other data display.
- Produce the data displays for each evaluation question.
- For each evaluation question, prepare a narrative explanation of the data displays and the implication of the data relative to the program's success.

EVALUATION PHASE VI

THE EVALUATION REPORT

Step 1. Write a brief description of the program, its goals and objectives.

- Describe the program's purpose
- List the goals and objectives.
- Summarize the critical features of the program.
- Briefly describe each major component of the program and its operation.

Step 2. List the evaluation questions.

Step 3. For each evaluation question, write a description of the evaluation design, data collection procedures, data analysis, data summaries and interpretation.

- Use the data summaries and interpretations already prepared for each evaluation question.
- Prepare any additional data summaries and interpretation needed by the audience for the evaluation report.

Step 4. Use the material written in Step 3 as the body of the evaluation report. Section headings will be the evaluation questions.

Step 5. Write the executive summary of the evaluation report.

Step 6. Prepare the draft of the total evaluation report and submit to the project manager for review and approval.

Step 7. Prepare the final copy of the evaluation report and turn it over to the project for publication and distribution.

APPENDIX D

SELECTED REFERENCES AND RESOURCES

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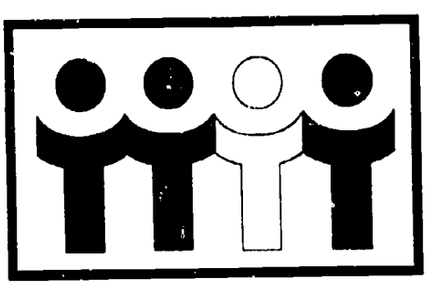

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