

# PHASE III

## Designing A Data Collection Plan

The purpose of this phase is to design a procedure in which to collect the information necessary to answer selected evaluation questions. This section requires the most detailed planning. Now is the time to decide what relevant data should be collected in order to prevent the collection of useless information later. Remember to be flexible: although steps are laid out in sequence, earlier steps in this section may need to be revised as design issues are worked out in later steps.

### **Step 1: Determine what data must be collected in order to answer each evaluation question**

- Create clearly defined measures that relate directly to the evaluation questions.
- Choose a means to compare the program results with non-program circumstance.

### **Step 2: Determine where to find the best source of data in order to answer each evaluation question**

- Decide from whom or where to get the necessary source of information.

### **Step 3: Determine how to collect the data**

- Select the data collection procedure best suited to the needs of the evaluation project.

### **Step 4: Determine how much data to collect**

- Decide on sample size.

### **Step 5: Develop an analysis plan**

- Make sure appropriate information is collected to answer specific evaluation questions.

### **Step 6: Determine when to collect the data**

- Outline specific collection times.
- Determine latest possible completion dates.

### **Step 7: Attend to data collection issues**

- Be aware of responsibilities to respondents.
- Determine who will collect the data.
- Keep track of data in an organized fashion.

## NOTE

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**Each evaluation question must be answered in a way that ensures its:**

- Validity:** The extent to which your data collection procedures accurately measure what they are intended to measure.
  
- Reliability:** The extent to which the data collection procedures, which include both the techniques to collect the data and the activities of the data collectors, produce consistent results each time the procedure is administered.
  
- Credibility:** The extent to which you can prove that you are not fabricating your findings

# Determine What Data Is Needed To Answer The Evaluation Questions

Step 1



**Data** are facts, statistics, or other items of information that have to do with this evaluation. The types of data necessary for evaluation purposes will depend upon the program objectives and their related questions under investigation.

In general, data collected for questions about program implementation (processes or functions) tend to be descriptive. These include such information as number of participants or the amount of time spent implementing a certain activity. It may include teachers' opinions or written descriptions about the program, information that can be obtained from interviews with teachers.

An **indicator** is an empirical observation, or description, that signifies a relative change in the relationship being measured. Data collected for questions concerning participant outcomes can usually be counted and measured. Specific evaluation questions that concern an outcome ask about the change in a single indicator such as the difference in self-reported attitudes that exists between two administrations of a survey to the same respondents at different time intervals.

As the types of questions differ, so will the measures best suited for evaluation of the program

**TASK***Create Measures of Program**Implementation (Program Processes)*

Implementation questions seek to measure the processes of the program. The evaluation activities surrounding this type of information will document how closely actual program implementation followed the initial design plan.

Implementation measures can focus on three different aspects of program functions:

- ▶ **Level of effort:** involves documentation of staff time and resources invested in the scope and frequency of services delivered.
- ▶ **Level of participation:** involves tracking program completion, attrition, and attendance rates among participants.
- ▶ **Quality of program delivery:** involves documentation of the history of the program with all its deviations from the design model.

Keeping careful records, or examining records already being kept as part of the program's administrative organization, will yield counts of deliverables and participants, etc.

Asking program staff more qualitative information about the process of the program functions during the school year, e.g., opinions on curriculum or activities delivered, and/or their self-perceptions of confidence in ability to implement services, will yield more contextual information that is not captured by administrative records.

Table 3.1 lists some types of general questions asked about program implementation objectives and the types of information collected as a result.

**TABLE 3.1 Measuring Program Implementation Objectives**

Types of General Questions	Type of Information Collected	Sources of Information
Is the program being implemented as designed?	Information on level of effort: the types of activities, services, or educational curriculum products being implemented; who received them, their duration and intensity	Information on services come from program records, or interviews with program staff
Is the program staff adequately trained to administer program components?	Information on level of effort: characteristics of staff, how they were selected, training they received	Information on staff come from program records, interviews with staff that administers the program or other program managers, training workshop evaluations
Who will participate? Is the targeted population being served?	Information on the level of participation: characteristics of the population, numbers of participants, how they were selected, attrition rates, etc.	Information on participant selection strategies come from program records and interviews with program staff or managers
What are some of the unanticipated outcomes of the activity?	Information on quality of program delivery: document history of how the program was actually implemented throughout the school year	Information on unanticipated outcomes can come from interviews with program staff, and participants, and parents;
What changes could the program make to better achieve its outcome objectives?	Information on the quality of program delivery: a compilation of the above types of information	Information on factors that hinder or promote program implementation come from interviews with relevant program staff

**TASK**

## *Create Measures of Participant Outcomes*

There are two general considerations to keep in mind when designing program outcome measurements.

1. Prevention programs focus on changing behavior in a target population over time and sustaining that behavior beyond the duration of the program. In some cases, the desired behavior may not show up in program participants for months or even years after program duration. This distance from the time of program involvement to the display of desired behavior would require a long-term assessment of individual program participants. Most school districts do not have the resources to conduct an evaluation that tracks the long-term participant outcomes of a single program. If it were a possibility, it would be an excellent behavioral change to measure.
2. Most locally funded evaluation efforts do not have the resources available to set up a true experimental design that controls for all variables (various contingencies or circumstances) in order to show causation. In other words, they cannot provide proof that the desired behavior is caused directly by the program. There are too many other external influences on participants to consider at one time.

**The key for this level evaluation, therefore, is to discover if things got better or worse after the program was initiated.** This can be accomplished by examining trends in behavior recorded in school discipline records or in self-report youth surveys, for example. By providing this early evidence, evaluators can demonstrate a link between participation in the program and actualization of desired behavior.

**There are other related outcome measures that can be assessed immediately following participation in the program.** Measures such as:

- skills gained,
- knowledge gained
- changes in attitudes,
- changes in perceptions, and/or
- changes in intentions.

These can be directly associated with immediate participant changes which resulted from program participation. These measures gauge a program's immediate effectiveness without waiting to measure changes in desired behavior. These measures are also very helpful in providing information for program improvement.

In deciding what indicators to use when assessing a program's outcomes, be clear on what level and type of change the program seeks to prevent or promote. Make sure the constructed measure captures this information. For example, if evaluating an ATOD prevention program that aims to raise the initial age of first alcohol use, data collection must include a construct that measures first time use of alcohol.

Program outcome measures are typically assessed in one of these three ways:

1. **Self-Reports of program participants:** Self-reports are the most frequently used. Studies have shown that self-report survey data are valid and reliable enough to provide accurate estimates of drug and violence related behavior<sup>6</sup>.
2. **Other reports** such as parent questionnaires and/or interviews, police reports, school discipline referral data, institutional records. Record data is an adequate way to provide information, however, remember that not all behavior is captured in reports.
3. **Direct observation:** Direct observations can be valuable as an outcome measure in certain situations, but it is costly and time and labor intensive to capture frequency of overt and hidden illicit behavior.

Table 3.2 lists types of general questions asked about participant outcome objectives and the types of information collected as a result.

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<sup>6</sup> Hawkins and Netherhood, p. 35.

TABLE 3.2 Measuring Participant Outcome Objectives

Examples of General Evaluation Questions	Examples of the Type of Information Collected	Examples of Sources of Information
<i>Immediate Outcomes:</i>		
Is there a measurable difference in knowledge and/or skills participants gained after completion of the program?	<p><i>Measures might include indicators such as:</i></p> <ul style="list-style-type: none"> <li>• Level of students' tested knowledge of program subject matter, and/or skills attained</li> <li>• Student grades</li> <li>• Performance on achievement tests</li> <li>• Attendance levels</li> <li>• Promotion rates</li> </ul>	<p><i>Gather information from such places as:</i></p> <ul style="list-style-type: none"> <li>• Program survey and/or program test results</li> <li>• Local school records</li> </ul>
Is there a positive change in participants' attitudes and perceptions about drug use after program participation?	<ul style="list-style-type: none"> <li>• Students' self-reported confidence pertaining to their knowledge, abilities, skills, and success immediately following the program and later in their lives.</li> <li>• Students' self-reported attitudes and perceptions immediately following program participation</li> </ul>	<ul style="list-style-type: none"> <li>• Participant self-report surveys prior to and at exit of program</li> </ul>
Did some participants change more than others (across gender, race, and/or grade)? Why?	<ul style="list-style-type: none"> <li>• Characteristics of target population</li> </ul>	<ul style="list-style-type: none"> <li>• School records</li> <li>• Student survey items about student characteristics</li> </ul>
Is there a measurable difference in violent occurrences after delivery of program services?	<ul style="list-style-type: none"> <li>• Participants self-reported behavior after program completion</li> <li>• School discipline referral data</li> <li>• Local law enforcement data</li> </ul>	<ul style="list-style-type: none"> <li>• Self-report surveys prior to and at exit of program</li> <li>• Local school records</li> <li>• Law enforcement statistics</li> </ul>
<i>Longer term outcomes:</i>		
Is there a measurable reduction in violent behaviors (or drug use) among participants of this program compared to non-participants?	<ul style="list-style-type: none"> <li>• Comparison in trends of school discipline referrals and/or self-reported behavior</li> </ul>	<ul style="list-style-type: none"> <li>• School Environmental Safety Incident Reporting System (SESIR)*</li> <li>• Florida Youth Substance Abuse Survey (FYSAS)*</li> <li>• Florida Youth Tobacco Survey (FYTS)*</li> </ul>

\* See Appendix 3 for more specific detail on secondary data sources.

**TASK*****Build Baseline Standards for Comparison into the Design Plan***

To report only measures of participant attitudes and behaviors at time of program completion offers limited information about the program's impact within a given community. In order to substantiate that participation in the program effected a change in its participants, the evaluation design plan must incorporate baseline standards with which to compare program outcome results. The aim of these comparisons is to demonstrate that program participation does have an impact on its participants. There are basically three ways to demonstrate this:

**TABLE 3.3 Ways to Make Relevant Comparisons**

<b>Standard for Comparison</b>	<b>Method of comparison</b>	<b>Baseline of Comparison</b>
Compare program participants before program begins and again after program ends.	Pre and Post Tests: The pre-test establishes a baseline of the specific item(s) being measured. This baseline is compared to a post-test measure of the change in participants after completion of the program across the same items.	Looking at same participants across two points in time.  Can only draw conclusions about the program participants as compared with themselves before and after prevention service
Compare program participants with a selected group that has similar characteristics but does not receive the prevention service.	Use of a Comparison group: a pre-selected group with the same or similar characteristics as the program participants that do not participate in the program; measured on the same indicators as the program group.	Looking at two groups within the same timeframe.  Can draw conclusions of program's impact on participants by comparing the rates of change between the two groups across the same indicators.
Compare program participants with the larger population of Florida youth at a specified point in time.	Use of Archival Data: examine specific indicators of the larger population from already existing data (for example, school discipline referral data); compare these with the same indicators of participants after completion of the program.	These already existing data sources survey all students, not just program participants; comparing changes in participant attitudes and behaviors with similar indicators of attitudes and behavior in the larger population surveyed at a previous point in time.



The evaluation design must build in at least one method of comparison.

- ☑ A **pre and post-test design** of program participants is one of the simplest forms of comparison. If this is the only method of comparison used, then further support your evaluation results with research from the literature which indicates that the program or the strategies used are already proven effective.
  
- ☑ Building a control group into the evaluation design can produce even stronger evidence of program effectiveness. Under laboratory conditions, establishing an “exact” comparison between a control group and an “experimental” group is possible; however, within a specific school environment, a control group may not be an ethical or practical possibility. **Comparison groups**, however, may be readily identified if there is another classroom or school with the same identified characteristics, e.g., grade level, associated risk and protective factors, as the targeted program participants.
  
- ☑ Finally, use of **archival data** provides a comparison between program participant outcomes and the corresponding attitudinal and behavioral trends of a larger specified population. This situates overall program impacts within a broader context.

## Step 2



## Determine Where To Find The Best Source Of Data To Answer Evaluation Questions

Determining the type of data to collect depends on the availability of data sources.

Data can mainly be collected from two types of sources:

- 1 **Primary sources:** These are sources in which the information collected is directly for the purpose of the program evaluation. Program participants, program staff, parents, are examples of primary sources from which to gather data. Documentation of actual program implementation within classrooms must be collected from teachers. In this instance teachers are the primary source of program implementation information.
- 2 **Secondary sources:** These are pre-existing data sources in which data have been collected at a previous time for a purpose other than this evaluation project. Administrative or other records compiled for the program itself, either at a previous point in time or during the current program delivery are good sources of program implementation information. Pre-existing state surveys or discipline files are a good source of pre-existing data that may address program outcome objectives.

Which data source to use will depend upon its relevancy to the evaluation questions, its accessibility, as well as its availability. **Collect both primary and secondary sources of information whenever possible.**

The following is a list of useful secondary data sources available for use:

- **SESIR:** School Environmental Safety Incident Report
- **FYSAS:** Florida Youth Substance Abuse Survey
- **YTBS:** Youth Risk Behavior Survey
- **FYTS:** Florida Youth Tobacco Survey
- **School Climate Survey:** locally determined
- **Student Discipline Reports** on suspension and expulsion
- **School Discipline Reports:** based on local discipline infractions

Refer to Appendix 3 for tables that chart these available secondary sources of information.

## Step 3



# Determine How To Collect the Data

There is often more than one way to collect evidence (data) to accurately answer an evaluation question. It is always practical to choose an approach that is efficient and feasible.

**Task**

## *Determine What Type of Procedure Is Best Suited to Collect Evidence for Questions of Program Implementation*

Table 3.4 lists some methods of data collection most appropriate for the purposes of assessing implementation objectives. Remember, evaluation questions focus on how well the actual implementation of the program follows the program design plan.

**Consider:**

- What 'best practices' can be assessed from an evaluative study.
- What, if any, unanticipated outcomes resulted from program activities.
- What types of changes could be made to improve program delivery.

Evaluating program operations is more than a monitoring mechanism. It is a means to tell the story behind program delivery. Using more than one procedure to evaluate program implementation objectives will help capture the nuances of the program that cannot be found in administrative forms alone.

**TABLE 3.4 Most Common Collection Techniques For Questions of Program Implementation**

Procedure	General Purpose	Advantage	Drawback
<b>Interviews</b> (I.e., telephone, face-to-face with an interviewer, open-ended response mailed survey)	To gather in-depth understanding of a respondent's experiences or impressions about program processes	Can gain a full range of detailed information	Can be time consuming to administer and analyze; can be costly
<b>Document Review</b>	To gather information from existing records collected for program administration purposes	The information already exists; it is the least expensive procedure	Information may be incomplete, inaccurate, or out of date
<b>Observation</b>	To gather detailed information about participants' behavior during program implementation; to gather detailed information on various processes of program delivery	Can gain very detailed information about the actual implementation of program processes	Can be expensive, requires more extensive training of the observer, can be difficult to analyze
<b>Case Studies</b>	To gather specific information about a single unit within the study, e.g., the actual implementation of the program within one school	Can gain a very comprehensive understanding of the actual implementation of the program	Very time consuming; can be expensive; not easy to generalize across other units under study

**TABLE 3.5 Most Common Collection Techniques For Questions of Program Outcomes**

Procedure	General Purpose	Advantage	Drawback
<b>Surveys, questionnaires</b>	To get abundant information from respondents in a non-threatening way	It is relatively inexpensive. Many sample surveys already exist. Easy to compare and analyze as numerical data. Easy to administer to lots of people.	Must pay careful attention to proper sampling procedures in order not to compromise validity. Does not capture all the detail.
<b>Document Review</b>	To gather existing data such as surveys or reports collected from outside agencies	The information already exists; it is the least expensive	Information may be incomplete, or inaccurate; many of these data sources survey all students not just program participants.
<b>Observation</b>	To gather detailed and accurate information about a participant's behavior	Can gain very detailed information on occurrences of certain behaviors	Can be expensive; requires more extensive training of the observer; can be difficult to analyze; may not capture information that would be captured in self-report surveys.
<b>Tests</b>	Used to assess skills, knowledge, and attitudes after participation in the program	Pre and post tests can be obtained from the program developer or other reliable evaluation sources	Must pay careful attention to proper sampling procedures. Does not capture all the detail.

**TASK*****Determine What Type of Procedure Is Best Suited to Collect Evidence for Questions About Program Outcome Objectives***

Collecting information from primary sources such as students in the program and students assigned to the comparison groups is most often done through surveys. For many prevention programs, there already exist survey instruments that have been proven reliable. Whenever possible, choose one of these already existing instruments that is applicable to the evaluation at hand.

Collecting information about trends in student behavior such as discipline referrals is most often done by document review. Table 3.5 lists a few of the data collection methods most often used to measure changes in participants' knowledge, skills, perceptions, attitudes, intentions and behaviors.

**Questions to consider in selecting a method for collecting evidence (data)**

- Who are your respondents, and what is the most non-threatening way to get information from them?
- What is the most practical and efficient procedure to use without sacrificing the accuracy of the information collected?
- Will the method you choose get all the information you need?
- How accurate will the information be from the method you select?
- Will the information collected from this method answer the questions you are asking?
- Will your audience see this information as credible and useful?
- Who can collect this data using this method?
- What training is required for data collectors?
- Do you have enough time to accurately collect your data using this method?
- Is this method the least disruptive to program operations?

## Step 4



# Determine How Much Data To Collect

The sources of information from which the data is collected are made up of the members or elements that are collected individually and then assessed as an aggregate. The entire group of members or elements, together, is called the **population**. For example:

- ▶ The target population of student respondents would consist of all program participants within a given school district.
- ▶ The target population of program staff respondents would consist of all teachers and other program administrators participating in the delivery of program services within a given school district.
- ▶ The population of discipline referrals for a school would consist of discipline referral records for all students in that school.

It is not always necessary to collect data from the entire population of respondents or other secondary data source. If the population is large enough, it is sufficient to collect the data from just a portion as long as it is done in a manner that obtains the same evidence as with the entire population.

**The decision whether to evaluate the entire population or just a portion ought to be based on a number of considerations:**

- The size of the population: it may be too difficult to collect data from a large population.
- The information to be gained or lost: the population may be too small from which to draw a sample that would provide significant conclusions about data collected.
- The available resources: the resources used in financial cost, labor, time, and equipment to collect and analyze information may necessitate evaluating only a sample of the population.

**Task****Select a Sample Size, If Necessary**

When it is too difficult or not necessary to collect information from an entire population, it is possible to work with a portion of that population. This is called a **sample**. Most evaluators use a sample. Sample selection is a technical procedure that requires much time and effort to explain in its entirety<sup>7</sup>. *The main objective of sampling is to ensure that the population characteristics important to the focus of the evaluation are represented in the sample drawn.*

**There are three types of sampling strategies applicable for this study:**

- ▶ **Random sampling:** Drawn from the list of members or elements of the target population, this selection process is based on a random selection procedure likened in theory to putting all names into a hat. It avoids any conscious or unconscious biases in selection on the part of the evaluator. There are various probability-sampling procedures that give all members of the population an equal chance of being selected so that the sample will be representative of the population from which it is selected. Therefore, evaluation findings from the sample can be generalized to the larger target population.
- ▶ **Weighted sampling:** If members of a population have unequal chances of selection into the sample, then steps can be taken to improve the probability of their selection. This can be useful if there are certain population characteristics of particular interest in the evaluation. It may be appropriate then to sample subgroups of the target population disproportionately to ensure sufficient number of cases from each for analysis. Keep in mind that analysis of findings must take into account the differential representation of subgroups.
- ▶ **Convenience sampling:** There are instances when the chosen sampling procedure is based on non-probability methods of selection. A sample may be chosen on the basis of convenience, accessibility, or particular interest in a specific subgroup within the target population. It is important to explain clearly the rationale and the criteria for this method of sample selection. When using a non-probability sampling procedure, it is important to understand that often findings based on the sample cannot be generalized beyond that sample to the larger population. In gen-

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<sup>7</sup> For more information, refer to the additional resources listed in Appendix 4.



eral convenience sampling methods are regarded as less reliable than methods based on probability. On the other hand, they are often easier and cheaper to use.

No matter the sampling method used, a perfect representation of the population can never be achieved. There will always be some degree of sampling error. Probability sampling methods make it possible to estimate the degree of sampling error. This is important to know when making inferences to the larger target population.



**Task**

### ***Keep Sampling Selections Congruent Across Data Sources***

Depending on the evaluation questions, there will be more than one population to collect data from. Schools, students, teachers, and documents for review all comprise separate populations from which to draw samples. Although different sampling techniques may be used for each population, they need to be drawn in concordance with each other. For example:

- ▶ Draw samples from program participant population and corresponding comparison group population in the same fashion across all selected schools under evaluation.
- ▶ If drawing samples of both students and program staff, make sure to draw samples from the same schools. Note that sampling procedures used for students do not need to be the same as those used to draw a sample of program staff. Information gathered from each type of respondent will be used to answer different evaluation questions.
- ▶ Documents to be selected for review must be chosen in the same manner across all selected schools. In addition, document review must take place within the same schools in which students are part of the evaluation.

## Step 5



## Make A Data Analysis Plan Before Data Collection Begins

It is very important to make a plan of how data will be analyzed before collection procedures begin. For example, in order to test for a difference in attitude changes between adolescent boys and girls, a gender item must be included on the self-report survey of participants. A plan will assure that the information needed to answer specific evaluation questions will be gathered.

**When preparing an analysis plan, consider the following items for each general evaluation question:**

- Who will be interested in your results?
- What descriptive information will you want to report? For example, which characteristics, such as gender, ethnicity, age, grade, etc. are relevant to the evaluation questions under study?
- How will you use selected baseline data to present comparisons with the data collected in the evaluation? For example, the Florida Youth Substance Abuse Survey (FYSAS) contains questions pertaining to 30-day use of alcohol, tobacco and other drugs for 6<sup>th</sup> through 12<sup>th</sup> graders. In order to examine a rate of change in the same behaviors among program participants as compared to the rate reported in the FYSAS, data must be collected from participants about their own 30-day use of the same substances.
- How will you measure statistical significance in your outcome data?
- How will you present the information collected about the implementation of your program? Will it be in a narrative form?
- How do you initially plan to display data?

As you develop your data analysis plan, also keep in mind your specific evaluation questions. **For every indicator you are measuring, make certain you have a reason to analyze it.**

## Step 6



# Determine When To Collect The Data



Task

*Create a Timeline or Schedule of Collection Intervals and Completion Dates*

Planning a timetable depends upon the time and resources available for the evaluation, as well as the logical considerations of program implementation delivery schedules.

Worksheet 3.1 Timetable of Collection Activities			
Data collection activity	When will the data be collected?	How much time do you have for follow-up collection activities?	When must data collection be completed?
1.			
2.			
3...			

**Task*****Decide How Often Data Should be Collected for Each Specific Evaluation Question.***

For example:

- ▶ When interviewing teachers or other program staff, decide when to collect interview information: at the end of the program or at one or more times during the course of the program.
- ▶ When collecting information from program administrative records, decide when to gather information: on a weekly or monthly basis.

**Allow plenty of time for completion of data collection.**

- ▶ Plan enough time for unforeseeable problems.
- ▶ Be aware of school schedules and program delivery schedules in order to avoid missed opportunities.
- ▶ Plan time for follow-up data collection activities.



# Attend To Collection Issues

There are a number of additional elements that must be considered when designing an evaluation plan.



## *Task Responsibilities to the Respondents*

- Obtain the proper clearances and consent forms as necessary or required by statute, policy, or law.
- Take into account ethical considerations, such as privacy to respondents, etc.
- Be aware of the needs and sensitivities of the respondents, such as cultural differences, and/or issues of confidentiality



## *Task Manage and Organize the Procedures of Data Collection*

- Assign an individual(s) to take responsibility for each component of the data collection activity.
- Select and train data collectors.
- Pilot test selected survey or interview collection instruments.
- Develop a tracking system for data collection activities. This includes using identifier codes on surveys or interview instruments. It is important to know where the information came from while still maintaining anonymity when necessary.
- Store data in an organized fashion
- Decide how to handle circumstances that might create error in sampling or other collection procedures.
- Monitor the data collection process regularly.

For each general evaluation question list the specific question and answer the following:

Worksheet 3.2 Evaluation Plan Design Matrix				
General Evaluation Question:				
Specific Evaluation Question:	What indicator will you use to answer your question?	What source will you use to get your data?	What procedure will you use to collect this data?	When will the data be collected?

**Worksheet 3.2, continued**  
**Evaluation Plan Design Matrix**

**General Evaluation Question:**

<b>Who will collect the data?</b>	<b>Who is primarily interested in this information?</b>	<b>What is your analysis plan?</b>	<b>Do you foresee any potential problems? Can you see how to get around these?</b>

## Things To Remember

1. Each district's plan will be unique. Each district's data collection specifications will depend entirely upon the evaluation questions and the techniques chosen in the evaluation plan.
2. Invest heavily in planning! Not only will it ensure a better product, but it will also make data collection and report writing flow much more smoothly.
3. With each question, consider the resources available; consider cost, quality, labor, technological equipment, organization, time, effort, and skill level of the evaluator. You do not want to gather a massive amount of data and not have the funds or qualifications to analyze it properly.
4. Collecting evidence to answer specific evaluation questions must be accomplished systematically using reliable instruments of measurement. Collected correctly, their purpose is to ensure the reliability with which data are gathered and/or measured.
5. The validity of the collected data depends upon the assumption that the created evaluation measures are accurately measuring what they intend to measure.
6. For more specific and detailed instructions on particular data collection techniques, refer to Appendix 4 for some additional resources that go beyond the scope this handbook.
7. You know you are finished with this phase when your design plan demonstrates congruity and when your instruments of measurement and corresponding data sources will in fact answer the evaluation questions you have selected.