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ARIES
TRAINING NEEDS ANALYSIS
MANUAL

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Control Data Corporation
Minneapolis, Minnesota

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PREFACE

The ARIES Project was conceived in response to the results of research into the micro-enterprise development sector and the projects and organizations engaged in micro-enterprise support. Among the observations of that research was that while the organizations that typically serve the micro-enterprise sector have strengths that enable them to reach micro-entrepreneurs better than some other types of organizations, they also lack certain capabilities that would enhance their effectiveness. One of the objectives of ARIES is thus to strengthen, through training, the capacity of these micro-enterprise support institutions to design and implement projects that assist their micro-entrepreneur clients.

A major thrust of the ARIES approach to meeting the training needs of its two audience segments--micro-entrepreneurs and the resource institutions that serve them--is the careful consideration of the needs of the two segments and their individual constituents. Indeed, the development of any training program should include an analysis of the training audience, the problem to be solved, the tasks to be performed, and a determination of where and how training can solve the problem. In the ARIES Project the need for training needs analyses is especially critical because of the diversity of situations and audiences to be served.

The purpose of this manual is two-fold: (1) to provide for the ARIES Project a consistent methodology and tool for training needs analysis before the development or recommendation of training programs; and (2) to provide a training needs analysis tool for the general use of ARIES beneficiaries and others to assess the training needs of their own organizations and of their clients. The manual has been written and constructed to provide a step-by-step, hands-on methodology for both experienced needs analysts and people new to the process.

We are deeply indebted to Jimmie P. Vetsch, Principal Consultant at Control Data Corporation, for incorporating into the design and development of this manual the knowledge and experience he has accumulated in over 20 years in training, training design, and needs analysis.

Beth Holmgren
ARIES Project Coordinator

I. INTRODUCTION

The most successful training programs are those that are based on sound and complete understanding of the training audience. This understanding comes from a careful study of the audience and the environment in which the audience works and lives. The study is known generally as a needs analysis.

The ARIES Training Needs Analysis Manual is devoted to an in-depth explanation of the needs analysis process, particularly as it is applied in situations where training is needed. It provides an introduction to needs analysis methods and explains the way the needs analysis fits into the overall training design and evaluation of the training products generated by that design. The manual details each of the phases of needs analysis, suggesting methods and providing examples of the tasks to be undertaken in each phase.

The manual concludes with three appendixes designed to assist in the organization and carrying out of a needs analysis and a fourth appendix, a glossary, that defines needs analysis terms used in this manual. The forms that constitute Appendixes A, B, and C are reproduced in the ARIES Training Needs Analysis Workbook and are to be used to plan the analysis, gather and analyze information, and prepare the final needs analysis document. We recommend that the forms included in the manual be used only for making additional copies as necessary.

Appendix A, the Needs Analysis Plan, provides a framework for recording important dates and events in the needs analysis schedule, for listing the people you intend to contact, and for making notes on your itinerary if you plan to travel to other locations.

Appendix B, the Needs Analysis Checklist, lists in one place the major questions to be answered by the needs analysis. It is intended for use both during the needs analysis process and at its conclusion to insure that nothing of importance has been missed.

Appendix C, the Needs Analysis Information Log, contains checklists of the topics to be covered in each type of interview (expert, target audience, etc.) and what is to be learned from literature review and direct observation. Forms for recording the results of each of these types of information gathering are provided.

Appendix D, Need Analysis Terms, is a glossary, as noted above.

AN IMPORTANT NOTE

This manual has been written with two audiences in mind: people who have been trained in needs analysis and those who have not.

By presenting a highly structured and detailed method for conducting a needs analysis, we do not intend to suggest that this is the only acceptable way to do a needs analysis. The purpose has been, rather, to provide a tool for immediate use in understanding and applying a process. For users who are trained, experienced needs analysts, this manual will be most useful as a set of reminders of methods and formats they have probably evolved for themselves. For those who are new at performing needs analysis, the structure and detail of this manual will supply a foundation on which they can build with confidence as the particulars of their projects emerge.

Whether users are experienced or inexperienced, there are two situations in which they may be using the ARIES Training Needs Analysis Manual: an examination of the training needs of their own organization or the training needs of others. The manual is intended to serve in either case, providing a generic structure that can be used as a springboard for a product that meets the needs of a specific project.

HOW TO USE THIS MANUAL

1. Thoroughly familiarize yourself with the definition of needs analysis and its placement in the design process by reading this introduction. Needs Analysis Terms, Appendix D, will help you understand any unfamiliar terms.
2. Review each of the needs analysis information-gathering methods and be sure you have considered the utility and application of each in your own process.
3. Become familiar with the four major phases of needs analysis construction and application:
 - Phase 1: Needs Analysis Preliminaries
 - Phase 2: Information Gathering
 - Phase 3: Documentation and Report Preparation
 - Phase 4: Application of the Needs Analysis to Training Design and Evaluation
4. Prepare your own plan for needs analysis, using the planning form in Appendix A, reproduced in the Workbook. Keep the steps in mind, cross-checking your intentions against the checklists of needed information provided.

5. Use the forms that are applicable to your project as you gather and analyze information and document your recommendations.

DEFINITION OF NEEDS ANALYSIS

Needs analysis is a process used by trainers, consultants, managers, and other researchers to determine requirements for change. It usually begins as the result of a statement of one or more problems associated with the performance of a selected group.

The following terms define needs analysis:

- o Systematic Follows a predictable and logical course
- o Consistent Provides similar results each time it is conducted with the same audience, regardless of the researcher
- o Multifaceted Uses data collected from multiple sources
- o Descriptive Reports objectively information about the audience and other circumstances that affect the audience's needs, such as:
 - o Environment, both physical and social
 - o Customs, beliefs, and social sanctions
 - o Economic conditions
 - o Attitudes and expectations
- o Prescriptive Recommends the most appropriate actions to be taken in light of available data
- o Predictive Estimates potential effects of the solutions recommended

BENEFITS OF NEEDS ANALYSIS

A well-conducted needs analysis can make a great difference in a training project's success. It can be expected to produce the following results:

- o Thorough understanding of the target audience helps the project designer set up training that takes into consideration education levels, reading ability,

attitudes, skill levels, and other critical factors about the trainees: the project has relevance to the audience.

- o Trainees are inclined to accept training willingly, which enhances learning because it is clear that training is meant for them and begins at their level of understanding: materials are appropriate to the audience.
- o Training is effective because it demonstrates respect for trainees' customs and practices.
- o Design and development of training are cost effective because there are fewer false starts and surprises.
- o Identification of training aids already developed provides savings.
- o Training is more focused and effective because of the designer's knowledge of specific trainee needs: unnecessary training need not be delivered.
- o Problems related to management methods and other external factors rather than to trainee skill are quickly identified and handled through methods other than training.

CONSEQUENCES OF NOT DOING A NEEDS ANALYSIS

If no needs analysis is done, or if it is done poorly, many problems are possible:

- o The training design process may be more time consuming and expensive than necessary. Without orderly and comprehensive background information, the designer may have to spend time in (possibly piecemeal) interviews, research, and evaluation to determine what is needed. Lack of information results in more difficult work than necessary, numerous changes and corrections, frustration among the design and development teams, and increased time to get the work done.
- o Without assessment of key variables, training is likely to be poor. The design may produce training that doesn't fit the audience or part of the audience may suffer from lack of training. This lack of training may not be apparent until trainees are actually unable to perform on the job.

- o The training material produced may be used less and replaced sooner. Its failure to meet perceived needs may be blamed on the trainees, teachers, or consultants, or on the poor materials themselves, which might have been appropriate to other circumstances.

II. OVERVIEW OF A SYSTEMATIC DESIGN PROCESS INCORPORATING NEEDS ANALYSIS

Because a needs analysis may result in a training product, it is vital that the analyst know what the training designer needs to know. The needs analysis process helps to determine what has to be done; the design process determines how to do it. It is the designer's job to match needs with a reasonable combination of solutions.

There are three characteristics that define the basic values of a satisfactory, systematic training design. It is valid if it accomplishes what it sets out to accomplish--positive change. It is relevant if it provides the training audience with content, methods, or skills that are exactly what that audience needs. It is reliable if other designers come up with fundamentally the same recommendations and design given the same data and the resulting training provides consistent results with the same audience. Appropriate needs analysis is the foundation for such a design.

COMPONENTS OF A SYSTEMATIC DESIGN PROCESS

Following are the steps of a systematic design process, showing the points at which the needs analysis is incorporated.

1. Problem Identification. A manager, trainer, agency, or other person or entity declares a problem exists that may represent a training need. A needs analysis is prescribed to provide background and interpretation of the problem.
2. Needs Analysis. An analysis is conducted by one or more people, with a focus on:
 - o Who the audience is
 - o What they are expected to do
 - o What they currently do
 - o What the discrepancy is between expectations and actual performance
 - o What is being done about the problem at present
 - o What could be done
 - o What should be done

3. Performance Task Analysis. On the basis of the description of ideal performance provided by the needs analysis, the training designer produces an exact and detailed listing of all expected performance. The resulting document defines instructional goals: (1) skills required for starting training (entry-level skills), (2) training needed to begin to perform the job, and (3) on-the-job learning that will take place and lead to mastery.
4. Instructional Task Analysis. In the instructional task analysis, the training designer defines and organizes the component subtasks that must be mastered to achieve the instructional goals. The resulting document describes the appropriate sequence of these training objectives without defining medium or method.
5. Survey of Existing Materials. Before development of new training begins, an analysis of existing materials is conducted. Materials that satisfy performance objectives are selected and their sequence in the overall training product is identified.
6. Design Specifications. The training designer selects the most appropriate resource (existing or to be developed) for each training objective. For materials that are to be newly developed, the designer spells out the media, structure, format, reading level, level of sophistication, and other characteristics appropriate to the target audience. The resulting document is a statement of deliverable products that will serve as a guide and standard for the assembly process.

In addition, on the basis of the design objectives and the target audience's entry-level skills, a testing system is specified that will best measure trainees' mastery of the learning objectives. The testing system specifications state when and what kind of tests are needed, which learning objectives are to be measured by each test, how tests will be delivered and scored, and what kind of feedback trainees will receive.

7. Evaluation Specifications. The designer outlines strategies for assessing the integrity of the instructional material, detailing arrangements pertaining to evaluation groups, sizes of groups, and data analysis requirements.

PRODUCT REVIEW AND EVALUATION

Once the preliminary product has been developed, the training designer (or sometimes another evaluator) reviews it in collaboration with the client to be sure that it is valid, relevant, and reliable insofar as it is possible to predict prior to implementation. When any needed changes have been made, the training product is ready for formal evaluation.

Two forms of evaluation of the product per se are formative and summative evaluation. Formative evaluation, or pilot testing, occurs during what is still the design and development process. The design team watches a small group of trainees who are much like the target audience as they use the product, then makes changes in the product based on those observations. Summative evaluation, field testing, occurs after development has been completed, using members of the target audience under actual conditions.

Field validation--examination of how well the product actually works in bringing about the changes indicated as necessary by the needs analysis--is also a critical step in the evaluation process. Here is where the needs analysis, in a somewhat altered form, is used again. This application is described in its logical place later in this manual.

III. THE NEEDS ANALYSIS

As stated earlier, needs analysis is a process used by trainers, consultants, managers, and others to determine requirements for change. It is usually done as the result of the perception of problems associated with the performance of a particular group.

WHO IS INVOLVED IN THE TRAINING NEEDS ANALYSIS?

First, of course, there is the needs analyst, who may or may not be the training designer. In addition, there are:

- o Experts--individuals with significant knowledge about some or all of the following:
 - The target audience
 - The job in question
 - Problems and solutions associated with the job
- o The target audience--the people whose performance is thought to require improvement or change
- o Managers or business owners--individuals who supervise the target audience (in the case of small enterprise, the owner/manager and the target audience may be the same)
- o Trainers--experienced individuals already working with the target audience
- o Practitioners--people successfully using the skills in question
- o Others--individuals (such as customers, vendors, banks, etc.) who have significant information but less central connection with the target audience than the categories above

The analyst gathers information from individuals in all of these categories, being careful to examine the evidence from a number of points of view in order to avoid drawing false conclusions.

BASIC QUESTIONS OF THE NEEDS ANALYSIS

As noted before, the needs analysis process calls for the analyst to answer the following fundamental questions:

- o Who is the audience?
- o What are they expected to do?
- o What are they currently doing?
- o What is the discrepancy between expected and actual performance?
- o What is being done about the problem at present?
- o What could be done?
- o What should be done?

Many more questions than these will be asked as the needs analyst gathers information from a broad variety of sources, but they are essentially elaborations of the ones noted here.

INFORMATION-GATHERING METHODS

Three general methods of gathering information are available to the analyst:

- o Interviews
 - Experts
 - Target audience
 - Managers or business owners
 - Trainers
 - Experienced practitioners
 - Others (customers, vendors, etc.)
- o Direct observation
 - Audience
 - Training currently in use
 - Experienced practitioners
- o Literature review
 - Training materials currently in use
 - Audience demographics and descriptions
 - Others' experience with the problem

1. Interviews

The interview is the needs analyst's prime tool. Because the analysis depends so much on information gained from the people involved, the analyst must be prepared to spend a lot of time interviewing many people who influence and are influenced by the situation at hand.

2. Direct Observation

Direct observation has long been a chosen method of study of the work environment and the people in it. This method provides the most reliable information about what is actually happening. However, it does not necessarily tell the analyst much about the subjects' mental processes. Consequently, this method is more useful in direct physical applications such as manufacturing and less useful in such intangible work as management planning.

3. Literature Review

The needs analyst can assemble much useful information from existing documentation. Not only can documentation provide direct information about the situation under examination, it can also lead to other information sources by, for example, identifying experts and practitioners.

PUTTING THE INFORMATION PICTURE TOGETHER

The needs analyst understands that each of the possible information sources provides a piece of a puzzle and that the picture is complete only when all the pieces are considered. Table 1 shows the various sources and the types of information they offer.

Table 1
Basic Questions and Sources of Information

	<u>Experts*</u>	<u>Audience</u>	<u>Managers/ Owners</u>	<u>Trainers</u>	<u>Observation</u>	<u>Literature</u>
Who is the target audience?	A	A	B	A	B	B
What are they expected to do?	A	B	A	B	C	C
What do they currently do?	B	A	B	B	A	C
What are performance discrepancies?	A	C	B	A	B	B
What is being done at present to correct the problem?	A	B	A	A	C	C
What could be done?	A	B	C	A	C	B
What should be done?	A	B	B	A	C	B

A = Primary source of information

B = Provides moderate information

C = Provides little information

*Includes practitioners.

IV. THE NEEDS ANALYSIS STEP BY STEP

Now you are ready to learn about the four phases of the needs analysis process and how to go about completing each. In the material that follows, each phase is described in such a way that you will be able to apply the process directly to your own project, using the forms supplied in the appendixes. Remember that the requirements of your particular needs analysis, whether of your own organization's training needs or those of others, may dictate some departures from the steps described here.

First, a quick overview of the tasks involved in the overall process will be helpful.

PROCESS SUMMARY

Following are the steps in each phase of the needs analysis process.

Phase 1: Needs Analysis Preliminaries

1. Plan the entire needs analysis.
2. Prepare an itinerary and schedule for interviews and observations.
3. Collect all available information, reports, and names of contacts.
4. Prepare outlines and questions for interviews.
5. Interview experts and others outside the geographic area being studied.
6. Remain objective about information gathered until the analysis is complete.

Phase 2: Information Gathering

1. Conduct interviews with:
 - Local experts
 - Target audience
 - Managers and business owners

- Trainers
 - Skilled practitioners
 - Customers, co-workers, officials, and others who have significant interest in or knowledge about the work of the target audience
2. Observe members of the audience at work.
 3. Collect and review written instructions, policies, current training materials, performance appraisals, job descriptions, and other literature.
 4. Identify problems.
 5. Review prior efforts to deal with problems.

Phase 3: Documentation and Report Preparation

1. Collect and categorize information.
2. Prepare a preliminary report and review it with knowledgeable advisors.
3. Prepare the final analysis and recommendations, including findings that relate to both training and nontraining factors that appear relevant to the problem under study.

Phase 4: Application of the Needs Analysis to Training Design

1. Audience description.
2. Performance and instructional task analyses.
3. Collection and review of existing materials; development of new training materials.
4. Training specifications.
5. Training evaluation: formative and summative evaluation and follow-up needs analysis.

If the needs analyst or evaluator is different from the training designer/developer/implementor, the analyst may conduct only the last step of this phase.

V. PHASE 1: NEEDS ANALYSIS PRELIMINARIES

If you are conducting a needs analysis within your own community and not traveling to another location, there will be a tendency to move quickly toward interpretation of the problem and definition of solutions. Analysts who do this sometimes are successful if they have excellent insight and have studied the problem for a long time. Unfortunately, it is also possible to create only partial solutions by doing this.

PRELIMINARY STEPS

Both individuals conducting needs analyses in their own communities or organizations and those traveling to other locations will benefit greatly by using a systematic approach.

1. Plan the Needs Analysis

The amount of preparation you do prior to embarking on the needs analysis can greatly affect its success. As with any complex task, the needs analysis requires a plan. The Needs Analysis Plan forms provided in Appendix A will help you to organize your own.

Your plan should include answers to the following questions:

- o What is the preliminary problem statement?
- o Who is the target audience and where are they?
- o Who will conduct the needs analysis?
- o Who will document the results?
- o Who will use the resulting documentation?
- o How much time is available?
- o When are preliminary results needed?
- o When are final results needed?
- o What are the criteria for effective results?
- o What literature should be reviewed?
- o Who and where are the experts?

- o How many of the target audience need to be contacted?
- o Who are the business owners, managers, or key administrative people?
- o What additional people should be interviewed?
- o What opportunities are there for observation?
- o Will there be opportunity for follow-up?
- o Will this be the last time anyone visits this audience before a design is written?

2. Prepare an Itinerary and Schedule

The Needs Analysis Plan provides space for planning the following:

- o Travel itinerary
- o Listing of all the people who must be interviewed
- o Daily interview schedule
- o Daily observation schedule
- o Daily schedule for note organization and documentation
- o Format for analysis report
- o Schedule for analysis report
- o Schedule for follow-up activities, if any

3. Collect Available Information

Before you begin the needs analysis effort on location, learn as much as possible about the audience, the environment, and the problem. Use the Needs Analysis Information Log, Appendix B, and begin filling in information. At this point, the information you gather will be primarily from a literature review, but it is also the time to be identifying and establishing contacts with interviewees and others.

Always cite your information source and always double-check the information you get. You may find that some of it is inconsistent and that you have to make judgments about the accuracy of your data when you are completing your documentation; early verification will simplify your task.

By the time you are ready to begin interviews, you should have assembled most of the relevant demographic information about the audience, and you should have spelled out a clear statement of the problem.

4. Prepare Interview Outlines and Questions

The sections dealing with the various types of interviews--the expert interviews here in Phase 1 and others in Phase 2--list the important points you will want to cover in each. Each section also provides typical questions based on those points. Both are intended merely as guidelines for the development of your own questions, phrased in your own words, and designed to elicit what you want to know from your particular interviewees. Notes to remind you of these points have been included in the Needs Analysis Checklist, Appendix B, and on the Data Collection and Data Summary sheets you are given in the Needs Analysis Information Log, Appendix C.

The same broad subjects will be addressed in all interview categories but not necessarily in the same way or at the same length. Only appropriate points are listed in each interview section's "Topics To Be Covered." You may well have additions of your own, however.

LITERATURE REVIEW

Although a review of existing printed materials begins in Phase 1 as a means of establishing a background for understanding the subject under analysis and uncovering sources of additional useful information, it is an activity that continues throughout the analysis, up to the point at which the analyst is prepared to document recommendations. Guidelines for conducting literature review are presented here in Phase 1 but they should be kept in mind as well as you proceed through subsequent steps of the needs analysis. A Literature Review Checklist of the topics to be covered and work sheets for recording your findings are provided in the Information Log, Appendix C, and the ARIES Training Needs Analysis Workbook.

There are two important types of printed information to consider in the context of a needs analysis, formal literature and informal documentation. The first is what is likelier to come to hand as you begin the analysis process off-site. The second is what you will find as you study the problem in question at close range and have the advantage of working with those most centrally involved.

Formal literature includes:

- o Published studies
- o Published histories and demographic information
- o Training materials
- o Government data
- o Brochures and company information
- o News articles

Informal documentation includes:

- o Organizational charts
- o Organizational policies and procedures
- o Job descriptions
- o Instructions and guidelines for job performance
- o Current training materials

Depending upon the target audience and area, printed information may range from plentiful to scarce. Where information is abundant, the analyst must be selective, choosing only the most valuable. Management, experts, and trainers will be helpful in identifying the best resources.

Examination of these kinds of information may produce:

- o Descriptive data about the target audience and its culture
- o Descriptions of the job in question
- o Prior studies for other training purposes
- o History of prior attempted solutions to the problems at hand
- o Types and locations of practitioners of the skill under study
- o Names and addresses of key experts and other resource people

Even when a lot of information in print is available, the analyst must remain cautious. Documentation, informal or formal, may be inaccurate or out of date. Following are some ways documentation can be misleading:

- o Research may have been weak or scattered; data may be skewed.
- o Economic, social, or political changes may have occurred since the document was written.
- o The documentation may have focused on a different problem, resulting in invalid data for your purposes.

With these possibilities in mind, here are some basic guidelines:

1. Never depend totally on documentation alone; check the facts through interviews and observation.
2. If you must depend upon documentation, look for two sources of verification for each piece of information.
3. Consider the date of the information; in some situations, information only a year old may no longer be correct.

How to Proceed

1. Be as systematic in conducting a literature review as you are in preparing for and carrying out interviews and direct observation.
2. Using the subject headings provided in the Literature Review Checklist, identify the questions you need to have answered. Add your own topics as necessary.
3. In addition to materials you may already have, use general and specialized libraries and known human resources (colleagues and experts, trainers, and other qualified needs analysis participants) to begin the search for relevant information. Much of what you find is likely to lead you to additional published information and knowledgeable individuals. As you proceed further into the needs analysis, making new contacts and conducting interviews, more people will be able to suggest other appropriate documentation.
4. Where possible, find information that represents more than one point of view.
5. Record your findings, using the Literature Review work sheets provided in the Workbook. Make careful note particularly of source, authorship, and date of useful materials.
6. Where appropriate and possible, obtain copies of documents when they appear substantial enough to contribute directly to either the needs analysis or, especially, the training design task analyses.

The Literature Review Checklist is just that--a list of most of the topics you will be considering throughout the performance of the needs analysis. By no means should you expect to find each of them covered in formal or informal printed information sources, either at the start of the analysis or as you progress through it. Some topics may be documented in many places, others in few or none. In some cases, with a needs analysis subject on which little work has been done, you may find no printed information at all. Therefore, regard the Checklist simply as a useful reminder of the subject being considered in the analysis, not a list of questions requiring documentation.

PREPARING FOR AND CONDUCTING INTERVIEWS

Interviewing is not always straightforward and easy.

- o The subjects of a needs analysis may not recognize the existence of a problem.
- o Subjects may not see themselves as being part of the target audience.
- o Subjects may be confused by an analyst's apparently unilateral decision to "analyze" them. Some may be hostile about what they regard as invasion of privacy.
- o Local officials, trainers, consultants, and management may be opposed to external influences.

Because of such obstacles, it is important that the analyst practice good consulting skills and in all ways demonstrate respect for the individuals contacted. Here are some basic rules of conduct for analysts:

1. Be sure your purpose is evident to those you interview. Whether you are a member of the community or a visiting consultant, be sure that you are seen as a person with a desire to help. Most important, do not create the appearance of having secret motives for your study, i.e., always ask relevant questions and be prepared to explain their relevance. Avoid being defensive when you are asked questions by the interviewee.
2. Be respectful of the privacy, values, level of education and knowledge, environment, customs, and practices of the individuals interviewed. Do not comment on or react to any practices or level of understanding that seem unusual to you.
3. Do not leap to conclusions. Regardless of your discoveries, ideas, or inspirations of the moment, the interview is to gather information, not to bring about changes. In particular, do not try to teach during the interview process. Later, you will be able to make improvements through your recommendations.

4. Write your questions in advance, reviewing the "Typical Questions" and "Discussion" that accompany each of the general topics. These sections will help you frame your own questions and suggest some ways to proceed with the interview. You may want to include your questions as an appendix to your needs analysis report.

To the extent possible, ask the same questions of everyone from whom you wish the same information. For example, don't ask one person "What is the average age of people in this job?" and another "Are most people in this job over twenty-five?" This will keep your questions clear and to the point. Equally important, uniformly stated questions will result in relatively uniform answers, making the task of analyzing those answers far simpler. While important questions will continue to arise as you conduct interviews, keep them too as uniform as possible.

5. Ask open-ended questions--that is, questions that cannot be answered with a simple "yes" or "no." They will draw out the most information.
6. Assemble and organize your information regularly. You may find that tape recording your thoughts immediately after an interview can be helpful. Do not tape record any interview unless the circumstances (e.g., language barriers, time constraints, or importance of specific input) will not allow normal note taking. Tape recording puts many people on guard and makes them nervous. Take detailed notes, and be sure to indicate who was interviewed--you will find that after several interviews, information tends to run together.

Work sheets for recording interview notes are provided in the ARIES Training Needs Analysis Workbook. Master copies are included in the Information Log, Appendix C, so that you may make additional work sheets as needed.

7. Maintain privacy and confidentiality for each person you interview. Do not share the opinions of one source with another. Doing so can arouse misgivings as to what you will say later about the person you are interviewing, and it can affect the opinions and comments you are given. Assure interviewees that their comments will be held in confidence and that their information will be used as part of a group of facts. You may, of course, request permission to quote the interviewee.

Properly Identifying the Role of the Interviewee

Sometimes the people you interview will have more than one role; for example, a manager may also be an expert. Multiple roles and changes in function can alter perspectives, so it is important that it be clear to both the needs analyst and the interviewee which voice the interviewee is using.

The role of the interviewee during the interview should be clarified for two reasons. First, a reliable needs analysis requires that interviewees' functions be properly identified for documentation purposes. Second, valid interpretation of interview content requires consideration of the perspective from which information or opinion is given.

If you are in doubt about which of a person's roles should be considered primary, document only information from the perspective of the role performed most of the time at present; information from the person's secondary role should be considered only if it is confirmed by other sources. Another useful principle is to treat the information you receive as coming from the higher of two levels of expertise represented by the interviewee.

Here are a few examples of situations in which you may encounter the problem of dual or overlapping roles:

- o A target audience member is also identified as a skilled practitioner: treat the information as received from a skilled practitioner.
- o A skilled practitioner is also perceived as an expert: for documentation, identify the person as an expert.
- o Where a manager or business owner is also a member of the target audience, as may often be the case with small business operations, treat that person as a member of the target audience.

A way to phrase questions you put to someone with dual roles is to emphasize the perspective being considered. For example, if you are interviewing someone who is both an expert and a business owner, you might say, "Speaking as a business owner, how would you describe the problem?" Then document the information given as "from a business owner."

The first interviews you will conduct are here in Phase 1, interviews with experts.

EXPERT INTERVIEWS

This description of the expert interview is presented only once, although you will be doing expert interviews in both Phase 1 and Phase 2. It will be useful to review this material at both points in the needs analysis process.

The expert may be able to provide perspectives regarding the target audience, the situation, and possible problem solutions that are different from those of any other individuals interviewed. Remember that being an "expert" does not mean that each expert has or needs to have answers to all questions.

For purposes of needs analysis, an expert is someone who has important knowledge about one or more of the following:

- o The culture, attitudes, performance, or problems of the target audience
- o The audience's job or tasks and how they are performed
- o What is actually happening--what problems exist
- o What has been done in the past to solve these problems
- o What solutions are available
- o When, where, and how solutions have been successful

Identifying Experts

Identifying experts is part of the planning process. Some may be known well enough that they are obvious to everyone, or they may be quietly competent people who must be discovered by the analyst. Here are some means for identifying experts:

Experts not in the targeted location:

- o May already be known to the analyst
- o May be recommended by the client or the organization sponsoring the analysis
- o May be apparent through publications
- o May be recommended by other known experts

Experts in the targeted location:

- o May be known in the community
- o May be the actual client or part of the client's organization
- o May become evident to the analyst as a result of interviews

You may find experts in some of the following roles:

- o Local and outside practitioners
- o Trainers
- o Consultants
- o Retired practitioners

So that their information can be seen in perspective, indicate in the analysis the experts' areas of expertise and the roles they play in relation to the target audience.

Even though the expert may have special information or expertise, this does not necessarily mean that he or she has already analyzed the problem you are interested in and can give you all the answers on request. The expert can describe the people involved, symptoms and history of the problem, and some ideas about solutions. Structure your questions to learn as much as possible. Also, avoid leaping to conclusions from the information you get from one or two experts. There are other people to see and other questions to ask.

Advantages of Advance Expert Interviews

If you are traveling to another location to conduct the needs analysis, it is beneficial to identify knowledgeable people outside that location to talk to before beginning the local analysis. This is an important step for several reasons:

1. Talking to experts in advance saves money: you will have made the best use of available information before traveling to the needs analysis site.
2. Advance interviews save you time. The experts you interview now may be able to direct you to others who have special insights about the situation you are studying.

3. Advance information from experts prepares you better for interviews at the site. You will already have background information on which to build those interviews.

How To Proceed

1. Review the topics to be covered under each general subject heading.
2. Review each topic's "Typical Questions" and "Discussion" for help in framing your own questions.
3. Record your interview notes on the Expert Interview work sheets contained in the Workbook. Make more work sheets as needed, using the master copies in Appendix C.

TARGET AUDIENCE DESCRIPTION

Topics To Be Covered

- o Age range and average age
- o Sex
- o General education level
- o Language
- o Reading, writing, number skills
- o Relevant religious, cultural characteristics
- o Economic considerations
- o Social, organizational (e.g., union) or government considerations
- o Existing skills, prior training
- o Experience with the tasks or job
- o Attitude toward situation or problem

- o General aptitude for training
- o Attitude toward training
- o Preferred learning methods
- o Prior problem solutions, including training

Typical Questions

- o What is the audience age range? How old is the average employee?
- o In a typical work group, how many are men, how many are women?
- o I need to know about how well this group reads. Can you show me something that most people would find easy to read?
- o When most people begin this job, what are they able to do right away without much help?
- o What work do they need help to learn to do?
- o What do most employees say is the problem?
- o How do the people seem to feel about training?
- o What kinds of trouble could we have in offering training in how to do the tasks or job better?

Discussion

In the expert interview you will be able to ask questions that are more pointed and explicit than questions you would ask managers or employers. If the expert is a senior member of the target audience or works closely with the audience, he or she will be able to give first-hand information.

For general descriptive information about the audience, the expert can be asked to talk about the "average" person in the field. Follow-up questions about this average person can help to fill in many pieces of information about the target audience. For more specific details about needs, the expert can be guided by questions that focus on particular situations. For example, the analyst may ask, "How would people from this work group describe the problem?" or "What are some of the 'problems behind the problem'?"

IDEAL PERFORMANCE

Topics To Be Covered

- o Description of ideal performance
- o Documentation of ideal performance, such as job descriptions, performance appraisals, training materials
- o Norms, rules, customs, laws, or other sanctions governing or affecting ideal performance
- o Expectations of managers, owners, customers, or others directly benefited or hurt by audience performance

Typical Questions

- o How would you describe good performance?
- o How would the manager describe good performance?
- o How would the typical employee describe good performance?
- o What kind of instruction or guidebooks do individuals have to help them understand how to do their work?
- o What has more influence on good performance, rules or group norms?
- o What customs or laws, if any, affect performance?

Discussion

The question of ideal performance is one of the primary reasons for talking to the expert. The expert craftsman, sales person, manager, or business owner has a wealth of information about his or her own world. You can learn much just by asking a few simple questions and listening. Begin with questions about the work and the expert's own personal history.

Ask for examples of what constitutes good work and what is only mediocre. Ask about people entering the field for the first time and about people already in the field. Are most new people well prepared to do the work? What kinds of people are the best? Why are they the best? What do they do that is special? Are people most influenced by management, the government, competition among themselves?

After questions such as these, work on sources of facts. Does the expert have any written information? Are there handbooks, guidebooks, regulations, or other documentation that define expert or high performance? Does the expert have examples of performance appraisals or guidelines for managers?

CURRENT PERFORMANCE

Topics To Be Covered

- o Expert's description of actual performance
- o Expert's perception of management's assessment of current performance

Typical Questions

- o What takes place in a typical workday?
- o How much work can the average person do in a day?
- o How well are most employees living up to management expectations?

Discussion

Not all experts are in a position to know what is actually taking place. Those most likely to be well informed include trainers, skilled practitioners, management, and consultants dealing regularly with the activity in question.

The expert's discussion of performance will usually include several factors: (1) what used to be done, (2) what ought to be done, (3) what doesn't get done, and (4) what the expert thinks about the problem. You will need to be firm and directive at this point so that the expert focuses on just what actually happens. Only on this basis can you adequately define departures from ideal performance.

PERFORMANCE DISCREPANCIES

Topics To Be Covered

- o Specific departures from desired performance
- o Improvements in terms of goals or changes that are attainable and measurable

Typical Questions

- o Are the results what you think they should be?
- o If the work were done really well, what would be different?
- o How much better, in terms of quality or quantity, could the work be?
- o If you were to set a goal for improvement, what would the goal be?
- o If you could change the way the work is done, how would you do that?

Discussion

Experts' answers to questions about performance discrepancies will generally have a technical focus. That is, the difference between ideal performance and what is currently happening will more often be stated in terms of products or results themselves than in terms of impact on profit or personnel. This is acceptable and appropriate in the expert interview.

The expert who is now a manager or consultant may look at the performance deficiencies in today's practitioner in a competitive way: "In my day, I could produce 50 good products a day; now they're producing 75 each, but 40 of them are rejected for poor quality. With the new tools and equipment, they should be able to produce 60 a day with only 5 rejections." While such a statement shows competitiveness, it also points out a problem and expectations.

CLARIFYING THE PROBLEM

Topics To Be Covered

- o Skill limitations that indicate entry-level skill or knowledge deficits not easily correctable by training
- o Skill limitations associated with low entry-level performance that are correctable with specific remedial training
- o Possible instructional goals of remedial training
- o Training or remediation that can be carried out prior to job entry
- o Training required after entry, such as further remediation or on-the-job coaching or training
- o Performance discrepancies that are clearly the result of management practices, economic conditions, custom, sanction, other social controls, or other factors not changeable by training

Typical Questions

- o Are the people who are hired capable of learning what must be learned?
- o Do people have enough training before they begin the job?
- o What things should be taught that are not currently taught?
- o What do you believe may contribute to the problem, lack of appropriate training or other causes?
- o If other causes, what are some of them?

Discussion

This set of questions may provide clarification of information you received earlier. For example, the expert is likely to have many ideas about why the problem exists. These may include poor hiring practices, bad management, high quotas, unfavorable working conditions, and so on. The purpose of

asking the expert clarifying questions is to gain insight into such questions as which factors of the problem are not related to training. The expert's responses to problem-clarifying questions will be useful in forming additional questions for later interviews with managers or members of the target audience.

CURRENT SOLUTION ANALYSIS

Topics To Be Covered

- o Inventory of currently available solutions, including the nature or medium and quality of each
- o Prior experience in matching solutions with the target audience
- o Analysis of portions of the audience best served by current solutions
- o Reasons for limited impact, such as audience untrainability, inappropriateness of materials, or nontraining-related factors, e.g., external controls or sanctions
- o Solutions or sources of expertise accessible but currently unused and reasons for their lack of use

Typical Questions

- o How long have you worked in the field?
- o Can you tell me about some of the changes you have seen?
- o What things are better or worse now than they were one, three, five years ago?
- o What solutions are being tried now?
- o How are they working?
- o What other solutions have been tried?

- o What were the results?
- o Why do you think each solution is or was successful or unsuccessful?
- o Which members of the target audience have done best with the solutions? Why do you think this may have been?
- o What solutions are available now that aren't being used? Why?

Discussion

The experts you interview may at present be implementing solutions to deal with the problem or they may have tried other solutions previously. They will probably be knowledgeable about solutions, but they may also be sensitive to any implied criticisms.

A good way to start this section is to ask general questions about the expert's own history with the target audience, the work, and the solutions.

SOLUTION RECOMMENDATIONS

Topics To Be Covered

- o Prioritized list of major training needs
- o Major available training-related solutions
- o Major attainable nontraining solutions suggested by findings
- o Solutions available versus solutions needed
- o Best training methods for this audience as revealed by audience analysis and current successful solutions
- o Range of training times required for the spectrum of performance problems across the audience

Typical Questions

- o Would you tell me what you see as this audience's major training needs in the order of their importance? (List major training-related needs discussed earlier and ask for prioritization.)
- o What are the training solutions you believe would be most appropriate for this audience?
- o You said that some of the problems that could be resolved by nontraining solutions were.... (List solutions discussed and ask for clarification or confirmation.)
- o You said that some of the best training methods for this audience are.... (List methods discussed and ask for clarification or confirmation.)
- o We talked about several additional possible solutions that are not available now.... (List solutions discussed and ask for clarification or confirmation.)

Discussion

The answers to the questions in this section may already have been given in response to earlier questions about solutions; this is a good time to review and prioritize. Check your interview notes for questions that remain unanswered or need clarification. Listing on paper some of the major points to review along with the expert may be helpful.

INCORPORATING SOLUTIONS

Topics To Be Covered

- o Readiness of the target audience, associated individuals, and affected systems/organizations for the changes that new solutions might bring
- o Best and second-best delivery media for each training solution
- o Readiness for training solutions delivered via their most common training medium

- o Distribution of target audience in terms of training needs and geographic location
- o Availability of delivery channels for each training solution
- o Logical sequence in which to introduce high priority solutions
- o Amount of external support required and probable time frame; phasing periods that might be required
- o Changes resulting from a new solution that might require governmental, social, or other sanctions for incorporation

Typical Questions

- o Looking at a map of the area, where is most of the target audience located?
- o Which areas have special needs that are different from the others?
- o How would the target audience accept this change?
- o Who might be bothered by this solution?
- o Whose support would be needed to incorporate these solutions?
- o How much support exists today?
- o Which of these media are commonly used in training in this area: text, slides, videotape, audiotape, computers?
- o Would this be easier to learn from a set of written instructions or from a teacher?

Discussion

During the interview, numerous potential problem causes and solutions will have been discussed. Although you will not want to draw final conclusions from a single interview, you do want to learn from the expert his or her ideas for incorporating solutions. Use a "what if" questioning style to solicit the expert's opinions; for example, "What if we were to introduce this new procedure and wanted to teach the accounting clerks to use it? How ready would they be to learn it?"

A Caution

Not every opinion you receive from an expert should be taken as necessarily complete or accurate. For example, in a production environment the expert may say that quality is down because in earlier days people were asked to serve an apprenticeship of several years before beginning production, while today, on the other hand, the entry-level person may be put to work with a few weeks of training. Such information may not be an adequate explanation: the apprenticeship may not have been as instructive as current training and the problem may have other causes. Consequently, collect these opinions without drawing conclusions immediately.

VI. PHASE 2: INFORMATION GATHERING

Whether you are conducting a needs analysis within your own community or traveling to another location, be sure to review the interview recommendations in this section carefully. As noted earlier, both individuals conducting needs analyses in their own communities or organizations and those traveling to other locations will benefit greatly by using a systematic approach.

Before beginning this phase, which takes place at the site of the needs analysis proper, you will have learned as much as possible about the audience, the environment, and the problem by reviewing available printed materials and interviewing off-site experts and others as logistics dictate.

The work of Phase 2 covers the gathering of information from the following sources:

- o Local expert interviews
- o Target audience interviews
- o Direct observation
- o Manager or business owner interviews
- o Trainer interviews
- o Practitioner interviews
- o Other interviews

You will see that guidelines for direct observation follow those for conducting target audience interviews. The reason for this is that although you may observe others as well, most observation is likely to be of the target audience and may take place at the same time or close to their interviews. The guidelines hold, of course, for observation of various groups. Work sheets for recording observation notes are provided in the Workbook and master copies for reproduction appear in the Needs Analysis Information Log, Appendix C.

When you have concluded the information-gathering process, you may find the Data Summary sheets included at the end of the Information Log useful for synthesizing the information you

have assembled from all sources--literature review, interviews, and direct observation. If you have used the loose-leaf Data Collection sheets provided in the ARIES Training Needs Analysis Workbook for recording your notes, you will find it easy to remove and review, for example, all the target audience descriptions from the interviews with experts, target audience members, managers/business owners, trainers, practitioners, and others. You can then summarize your findings on the Data Summary sheet for the target audience description, along with a summary of what you have learned from literature review and direct observation as well. A similar procedure may be followed with each general topic of the analysis--ideal performance, current performance, performance discrepancies, etc.

TARGET AUDIENCE INTERVIEWS

Because it is so central to the problem under examination, the target audience can provide valuable information regarding the situation, the various players in it, and possible solutions that will be different from what you get anywhere else. However, be careful not to allow the target audience's special perspectives and proximity to the problem to prevent you from seeing the overall, larger picture.

As with other groups to be interviewed, remember that being a member of the target audience does not mean that any individual will have answers to all questions. In your notes and your subsequent written analysis, be sure to clarify the specific areas where the person interviewed has experience and information.

How To Proceed

1. Review the topics to be covered under each general subject heading.
2. Review each topic's "Typical Questions" and "Discussion" for help in framing your own questions.
3. Record your interview notes on the Target Audience interview work sheets contained in the Workbook. Make more work sheets as needed, using the master copies in Appendix C.

TARGET AUDIENCE DESCRIPTION

Topics To Be Covered

- o Age range and average age
- o Sex
- o General education level
- o Language

- o Reading, writing, number skills
- o Relevant religious, cultural characteristics
- o Economic considerations
- o Social, organizational (e.g., union) or government considerations
- o Existing skills, prior training
- o Experience with the tasks or job
- o Attitude toward situation or problem
- o General aptitude for training
- o Attitude toward training
- o Preferred learning methods
- o Prior problem solutions, including training

Typical Questions

- o How long have you done this kind of work?
- o How long have you worked here?
- o How would you describe people who do what you do?
- o What is their age range and average age?
- o Are others in this job mostly men or women?
- o What language do most of the people who do what you do speak?
- o How much time have most of the people in this job spent in school?
- o I'm trying to understand what type of reading material is best for this group. Can you show me some things you like to read?
- o How long does it take to learn your job and how did you learn to do it?

- o What training have you been given?
- o What ways can you think of in which the work could be done better?
- o Do you believe most of the people doing similar work would like to be shown how to do things better?
- o How do you like this job?
- o How do most of the people you work with like their job?
- o How would you feel about having changes made?
- o How do you feel about these questions?

Discussion

Be sure that the target population has been properly prepared for your visit and interviews. Follow local customs, procedures, or rules and be sure to have the permission of all responsible management or supervisory agencies.

Schedule interviews in advance and follow the schedule closely. Be attentive to the effect of your interview on the interviewee's work load; don't interfere with regular business activities. Arrange for the interview to be private and uninterrupted. Generally, interviews should not last more than an hour.

Schedule interviews with several members of the target audience so that you will know you have a good cross section. If, for example, you are studying a raw materials supply industry for manufacturers, you might want to talk to warehouse workers, transport workers, and those who manage and coordinate shipments.

IDEAL PERFORMANCE

Topics To Be Covered

- o Description of ideal performance

- o Performance appraisals, job descriptions, or even stories that may tell of expectations of ideal performance
- o Goals commonly held and respected by the target audience
- o Written guidance the target audience receives about ideal performance
- o Norms, rules, customs, laws, or other sanctions governing or affecting ideal performance

Typical Questions

- o How would you describe very good performance of your job?
- o Can you show me a job description or other written description of your work?
- o Can you show me any written instructions or procedures?
- o What kinds of people do the best work or are most successful? What do they do that is special?
- o Can you identify someone for me who does a really good job?
- o How do you find out when good or bad work is done?
- o What are your personal goals for doing well?

Discussion

Availability of written information will vary broadly. A banking organization in Central America, for example, may have substantial documentation of policies and procedures, while a loosely related group of merchants in Kenya may have no written material of their own. Although written information is not necessary to conduct the needs analysis, it can make the job of interpretation of ideal performance much simpler. Always ask for and review any documentation that may be available.

In addition to written materials, the workers themselves are a rich source of information about rules, procedures, and expectations. Both interviewing and observation can tell much about ideal performance.

CURRENT PERFORMANCE

Topic To Be Covered

- o How the tasks or job are currently performed

Typical Questions

- o How can I get permission to watch you work for a while?
- o Can you describe how you go about your work?
- o Can you show me someone working who is very good at the job?

Discussion

Although current performance of many kinds of jobs is clearest through direct observation, there are people who perform those jobs who are willing and able to explain what it is they do. Talking with them first may be helpful in telling you what to look for.

Observation of jobs requiring a good deal of mental activity that can't be seen directly needs supplementing with more verbal description than jobs that are manual or physical in nature. Verbal description is considerably more important in these cases.

Remember that what you hear is what the individual thinks he or she does. Observation will add to your understanding; guidelines for observation follow these for the Target Audience interview.

PERFORMANCE DISCREPANCIES

Topics To Be Covered

- o Differences between actual performance and desired performance
- o Desired changes

- o Capacity of entry-level and low-performance individuals to identify and understand differences between actual performance and desired performance

Typical Questions

- o What are some things that could be done to make work results better?
- o How does your work compare to the person you identified earlier as one of the best workers?
- o What things could you do to improve?
- o Think about someone who does not do well at present. Do you think that person is able to improve? How?
- o What are some of the benefits to the individual of doing better work?
- o What could be the benefit to the business (or company, or community) if everyone performed better?

Discussion

The more experienced person usually knows the difference between ideal and actual performance on the job. You may not get a fully open answer to your questions about this, however. The individual may feel defensive about admitting to you that current performance is less than perfect. You may find that talking about a hypothetical or generalized third person is a more comfortable way of exploring these questions. Be sure to ask about both expert and poor performers.

CLARIFYING THE PROBLEM

Topics To Be Covered

- o Skill limitations that indicate entry-level skill or knowledge deficits not easily correctable by training

- o Skill limitations associated with low entry-level performance that are correctable with specific remedial training
- o Possible instructional goals of remedial training
- o Training or remediation that can be carried out prior to job entry
- o Training required after job entry, such as further remediation or on-the-job coaching or training
- o Performance discrepancies that are clearly the result of management practices, economic conditions, custom, sanction, other social controls, or other factors not changeable by training

Typical Questions

- o How well prepared for work is the average new worker?
- o How prepared are most new workers to learn what they must in order to do the job?
- o What kinds of training and coaching are available to the new worker?
- o What special training should be provided for some new workers?
- o What happens if a new worker is unable to learn quickly enough?
- o What changes could be made that would help everyone work better?
- o Can you tell me about any problems beyond the workers' control that prevent ideal performance?

Discussion

You may find it very easy to get answers to questions about outside causes of performance problems. Many workers are willing to blame their employers, the government, or the economic system in general for shortcomings in productivity or

performance. Your purpose in this set of questions is to determine what is actually externally caused, caused by hiring practices, and caused by training limitations. For example, a small retail enterprise could be harshly affected by taxes, location, social issues, or poor management, and none of these situations would be much improved by training of the workers.

CURRENT SOLUTION ANALYSIS

Topics To Be Covered

- o Solutions available to the target audience
- o Analysis of portions of the audience best served by current solutions
- o Solutions or sources of expertise accessible but currently unused and reasons for their lack of use

Typical Questions

- o What has already been tried to help in this situation?
- o What training or other programs are being used right now?
- o What other solutions are in use but not broadly available?

Discussion

It may not be immediately apparent that the target audience can contribute significantly to a discussion of current solutions. However, it is necessary to understand what solutions have actually been attempted. For example, a government program to improve health standards among street food vendors may be unsuccessful. The government believes that the people are uncooperative, but the fact may be that the information is not presented in a way that people can understand. Hearing from the perspective of the audience what is being attempted is important.

SOLUTION RECOMMENDATIONS

Topics To Be Covered

- o Perceived best solutions, training or nontraining
- o Major training-related solutions needed
- o Best training methods for this audience as revealed by audience analysis and current successful solutions

Typical Questions

- o What do you believe would be the best solution for this situation?
- o In what areas would more training be helpful?
- o What types of training have worked best for you? (Note: This refers to instructional strategies, such as demonstration or simulation.)

Discussion

It is always valuable to ask the people who do the work what training (and sometimes other) solutions will work best. It is likely that many know the answer and that you will get some of the best suggestions here. Also, these individuals are excellent resources for an understanding of what methods work best for them.

INCORPORATING SOLUTIONS

Topics To Be Covered

- o Readiness for new solutions
- o Best media, regardless of strategy, for training solutions

Typical Questions

- o How ready do you believe people doing this kind of work are for new solutions?
- o How do you feel about studying using (text, seminars, videotape, audiotape, etc.)?

Discussion

The target audience can tell you much about attitudes and readiness for change. Your questions may not be specifically about attitude, but you will be listening for feelings in the responses. For example, you might ask whether a bank teller believes a particular solution would work. You may get the answer that the teller group has always been ready for change but that management won't allow it. This could lead you to look further into both employee attitudes and employee-management relations that may affect performance.

DIRECT OBSERVATION

You read earlier that direct observation is a major information-gathering method employed by needs analysts since it provides the most reliable information about what is actually taking place. While it does not necessarily reveal much about what is going on in the mind of the worker, it is a strong tool when combined with interview data from the observed audience.

Direct observation can provide information about:

- o Amount of time spent on the task or job
- o Amount of direct supervision
- o Interchange and communication among co-workers, workers and customers, workers and management, etc.
- o Cooperation, feedback, and correction among workers
- o Effort put into checking and quality control
- o Error rates
- o Correct and incorrect use of tools
- o Consistency between what is said to be the job and what is actually the job

An opportunity to witness training should not be overlooked. Classes involving the target audience can be very informative whether they deal with the targeted topic or not. Apply the same rules to classroom observation as to any other observation session.

Following are some general points to consider when conducting observations:

1. Whenever possible, plan to use direct observation of the target audience after you have conducted several audience interviews. You will have learned some of the key aspects of the work and know more than before about what you are watching. Ideally, you will observe the same individuals you interviewed--or at least others in the same group--and as close in time to their interviews as possible. This keeps the information received in the interview in proper relation to that gained in observation.

2. Observe only with permission. Be sure this is acceptable to the person to be observed and that you have the permission of that person's manager or supervisor.
3. In preparing to observe, explain why you are watching and what you will do with the results and when. Reassure your subject that his or her personal performance is not being evaluated: you are trying to learn about process.
4. Prearrange the length of the observation period. Both you and the person observed will be most comfortable if it is understood in advance that you will watch for an hour, for example. Set a period to watch that is consistent with a typical work cycle; e.g., if the job is repetitive and takes about two hours for completion of a full set of tasks, watch for at least two hours.
5. If possible, observe without being conspicuous. In some circumstances, you may be able to watch from a distance. If not, keep your observing casual. The presence of someone watching closely and writing observations in a notebook can be unsettling to some people.
6. Observe without interfering, commenting, or distracting. Any interference that you may cause during observation will affect the results.
7. Do not give feedback after the observation. You are gathering information and not yet in a position to make recommendations.

How to Proceed

1. In advance of observing, review the topics noted on the Direct Observation Checklist (included in the Information Log, Appendix C, and the Workbook) and your own interview notes that may indicate performance areas of particular interest. The checklist topics are issues to be kept in mind while you are observing, not questions to be answered as such.
2. Use the Data Collection Sheets for recording your observation notes.

MANAGER OR BUSINESS OWNER INTERVIEWS

In some instances, especially where small businesses are being examined, the manager or business owner is a member of the target audience. In this case, use the outline for the Target Audience interview, altering the phrasing of your questions appropriately. If there is in fact an owner or higher-level supervisor than the manager, then this section should be used in interviewing that individual.

The manager or business owner is in a position to provide unique data about the employees and management's expectations of their performance. This interview will give you quite a different perspective from what you have received elsewhere and should allow you to begin interpreting conflicting information from experts, employees, and other individuals related to the issue. Remember as you conduct this interview, however, that "the boss is not always right." The information you obtain from this interview, like any other, should be added to the overall data collection and judged as a part of the whole.

How to Proceed

1. Review the topics to be covered under each general subject heading.
2. Review each topic's "Typical Questions" and "Discussion" for help in framing your own questions.
3. Record your interview notes on the Manager or Business Owner Interview work sheets contained in the Workbook. Make more sheets as needed, using the master copies in Appendix C.

TARGET AUDIENCE DESCRIPTION

Topics To Be Covered

- o Age range and average age
- o Sex

- o General education level
- o Language
- o Reading, writing, number skills
- o Relevant religious, cultural characteristics
- o Economic considerations
- o Social, organizational (e.g., union) or government considerations
- o Existing skills, prior training
- o Experience with the tasks or job
- o Attitude toward situation or problem
- o General aptitude for training
- o Attitude toward training
- o Preferred learning methods
- o Prior problem solutions, including training

Typical Questions

- o How long have you been a manager/owner?
- o Did you work in this field before you became a manager/owner?
- o How would you describe in general the people who do the kind of work your employees do at present?
- o What are the age range and average age of most employees in this organization/business, including your own employees?
- o How would you describe the reading and number skills of the average employee?
- o What is the typical past experience people who do this work bring with them?

- o How would you describe the employees' attitude toward the problem?
- o How do you describe the problem yourself?
- o What language difficulties might make it hard to teach your employees?
- o What cultural issues might affect individuals' willingness or ability to learn or perform?
- o What are the entry-level skills of your employees?
- o How would you describe the employees' attitude toward their work?

Discussion

The manager or business owner can provide information about the problem and a description of the target audience. In addition, that person can probably also give you useful insights into difficulties you may encounter in doing the needs analysis, such as attitudes toward the analysis, or problems that might arise in training.

Since managers or owners may differ even within the same target audience or geographic region, it is important that you schedule enough different interviews to have a good cross section of the group. Ideally, you should talk to at least three managers or owners.

IDEAL PERFORMANCE

Topics To Be Covered

- o Description of ideal performance
- o Documentation such as performance appraisals, job descriptions, or training materials that define ideal performance

- o Norms, rules, customs, laws, or other sanctions governing or affecting ideal performance
- o Written guidance the target audience receives about ideal performance
- o Goals commonly held and respected by current skilled practitioners
- o Expectations of managers, owners, customers, or others directly benefited or hurt by audience performance

Typical Questions

- o How should your employees perform the job to do it perfectly?
- o How do you explain your expectations to a new employee?
- o Can you give me examples of how the employees define ideal performance?
- o Can you show me any written job descriptions, rules, procedures, or performance appraisals that help describe ideal performance?

Discussion

The manager or owner is in an excellent position to describe ideal performance since it is he or she who defines ideal performance in hiring employees. This does not necessarily mean that the perceptions of the manager/owner are altogether correct. He or she may have unrealistic expectations about level of performance, typically higher than those of the average employee. On the other hand, the manager/owner is the source of written job descriptions, performance appraisals, and other documentation that explain ideal performance in a straightforward way.

A good way to start the discussion is by asking the manager/owner to talk about his or her expectations of ideal performance. Then ask for ideas about how the employees themselves, through customs or general practice, seek to ensure positive performance. After this point, you can ask for examples of records such as performance appraisals or job descriptions to assist you in defining ideal performance.

CURRENT PERFORMANCE

Topic To Be Covered

- o Manager's or owner's perception of current performance by employees

Typical Questions

- o What do you consider is taking place at the work site with regard to actual performance of the tasks we have talked about?
- o What do you think your employees would say if I asked them to describe what they actually do or what their current performance is?

Discussion

The manager/owner may be physically removed from the actual work site and not have as good an idea of current performance as the employees themselves. Nevertheless, it is important to understand what the manager/owner believes is current performance. This can help interpret the actual problem. If, for example, the manager/owner lacks a good understanding of current performance, the solution may be associated with better management training for the manager/owner as opposed to additional training for the employee.

PERFORMANCE DISCREPANCIES

Topics To Be Covered

- o Difference between actual performance and desired performance
- o Desired changes
- o Capacity of entry-level and low-performance employees to see and understand the difference between actual performance and desired performance

- o Attainable and measurable improvements in employee performance
- o Performance discrepancies caused by external factors

Typical Questions

- o How would you change current performance to make it more satisfactory?
- o If you were going to change one thing about the way your employees perform, what would it be?
- o What are some of the major changes most of your employees are capable of that would make your business more successful?
- o What kind of desirable changes might not be within the skill or capability of some of your employees?

Discussion

The manager or business owner is likely to be eager to tell you about the difference between ideal performance and actual current performance. Typically, someone whose employees are not living up to his or her highest expectations will describe performance discrepancies with frustration and high dissatisfaction.

On the other hand, the manager/owner may be suspicious of the needs analysis process and wish to protect employees. It is possible that he or she will say that nothing is wrong. Here your questions must be very specific and focus on objective statements of what the differences are between ideal and actual performance, recalling earlier statements that suggested discrepancies.

CLARIFYING THE PROBLEM

Topics To Be Covered

- o Skill limitations that indicate entry-level skill or knowledge deficits not easily correctable by training

- o Skill limitations associated with low entry-level performance that are correctable with specific remedial training
- o Training or remediation that can be carried out prior to job entry
- o Training required after entry, such as further remediation or on-the-job coaching or training
- o Possible instructional goals of remedial training
- o Performance discrepancies that are clearly the result of management practices, economic conditions, custom, sanction, other social controls, or other factors not clearly changeable by training

Typical Questions

- o Some of the problems you are encountering may not necessarily relate to a need for training. Would you give me some examples of other, nontraining-related problems that influence your overall business success?
- o In the course of your experience, what changes have you seen in the overall qualifications of prospective employees?
- o Can you tell me about any changes with regard to the technical skills required on the job that may have taken place over the last few months or years?
- o What kind of remedial training, if any, do you now provide for new employees?
- o If you were able to provide special remedial training for new employees, what would it be?

Discussion

The manager or business owner may be in an excellent position to explain changes that have occurred in the quality of entry-level performers or changes in the business environment or technology that have increased the required level of entry performance.

Because some performance discrepancies may result from limitations on the part of the management itself, questions in this section of the interview require tact. Prepare to gather information without discussing your own opinion.

Consider the possibility that performance problems may not be only the result of lack of training but also of the wrong people being asked to do the job.

CURRENT SOLUTION ANALYSIS

Topics To Be Covered

- o Inventory of currently available solutions, including the nature or medium and quality of each
- o Prior experience in matching solutions with the target audience
- o Analysis of portions of the audience best served by current solutions
- o Reasons for limited impact, such as audience untrainability, inappropriateness of materials, or nontraining-related factors, e.g., external controls or sanctions
- o Solutions or sources of expertise accessible but currently unused and reasons for lack of use

Typical Questions

- o As you have stated the problem, can you tell me about solutions that are now being applied?
- o Can you tell me about some previous solutions that have been attempted?
- o How has each of these solutions been offered to employees?
- o What are some of the things that limited the complete success of each of the prior solutions?
- o Which solutions, current or past, have been most successful?

Discussion

The owner/manager is in an excellent position to tell you about current solutions. In some cases the owner/manager may talk about solutions that he or she has attempted and in other cases may be able to describe previous attempts by others to improve productivity or profitability. If the solutions have been instigated by the owner/manager, the explanations for why they may not have been perfectly successful may differ considerably from interpretations provided by employees or other witnesses to the effort.

SOLUTION RECOMMENDATIONS

Topics To Be Covered

- o Prioritized list of major training needs
- o Major available training-related solutions
- o Major attainable nontraining solutions suggested by findings
- o Solutions available versus solutions needed
- o Best training methods for this audience as revealed by audience analysis and current successful solutions
- o Range of training times required for the spectrum of performance problems across the audience

Typical Questions

- o What do you believe are the major training needs not currently being met?
- o What would be the best method for teaching improved skills or know-how to your employees?
- o What are the major nontraining problems that need to be dealt with?
- o What additional solutions might help the situation?

Discussion

Some managers/owners may be able and willing to suggest some nontraining solutions. In other cases, you may be able to suggest for consideration some applicable nontraining solutions. If you do bring up nontraining solutions, it is important that you do so in the most cautious and tentative way and not as recommendations for immediate implementation. For example, if your interpretation of a problem with credit collections indicates that the major difficulty lies in the extension of credit to close friends or family of the manager/owner, it is probably not advisable for you to suggest matter of factly that this is the problem. On the other hand, if the situation reveals generally loose policies with regard to extending credit, you may be able to ask what might happen if these policies were tightened.

INCORPORATING SOLUTIONS

Topics To Be Covered

- o Readiness of the target audience for new solutions
- o Best delivery media for each training solution
- o Distribution of target audience in terms of training needs and geographic location
- o Availability of delivery channels for each training solution
- o Logical sequence to introduce high-priority solutions
- o Availability of external support (government, other)
- o Time outside support or resources would be needed

Typical Questions

- o In your opinion, how ready are your employees and other people like them for new solutions to these problems?
- o Which means of delivery of the training solutions do you believe would be most effective?

- o What are the most logical locations in your area to reach the majority of members of the target audience?
- o What do you believe we should do first, second, third?
- o What would be the best way to get government or other outside support?
- o If we did introduce some of the solutions we have talked about, how long do you think it would take to achieve satisfactory performance?

Discussion

This part of the interview is intended to draw out the manager's or business owner's own interpretation of the best ways to introduce new solutions. In some instances, you will receive suggestions without having to ask for them. In either event, it is helpful both now and later to obtain advice from the manager/owner as to the best ways of obtaining support for solutions you may recommend.

TRAINER INTERVIEWS

If there is a local or even a regional trainer who works with the target audience, be sure to contact and interview him or her. There is no simple way of predicting the knowledge or skill of a given trainer, but an experienced trainer should be able to provide information about the audience that is unique.

Do not expect the trainer to understand fully the needs analysis process or even to agree that the process is necessary. It is possible, for example, that the existing solutions you are evaluating were originated by this person.

Interview the trainer as you would any other expert. As an expert, the trainer is in a position to provide knowledge and insight about the subject matter that practitioners may not have. As a human resources expert, the trainer can be expected to have extensive knowledge about the trainees, even if he or she does not deal with the subject at hand. Interview with specific focus on the audience, training problems, and prior efforts to train this audience.

How To Proceed

1. Review the topics to be covered under each general subject heading.
2. Review each topic's "Typical Questions" and "Discussion" for help in framing your own questions.
3. Record your interview notes on the Trainer Interview work sheets contained in the Workbook. Make more work sheets as needed, using the master copies in Appendix C.

TARGET AUDIENCE DESCRIPTION

Topics To Be Covered

- o Age range and average age
- o Sex

- o General education level
- o Language
- o Reading, writing, number skills
- o Relevant religious, cultural characteristics
- o Economic considerations
- o Social, organizational (e.g., union) or government considerations
- o Existing skills, prior training
- o Experience with the tasks or job
- o Attitude toward situation or problem
- o General aptitude for training
- o Attitude toward training
- o Preferred learning methods
- o Prior problem solutions, including training

Typical Questions

- o What are some of the things you have taught this audience?
- o What is the target audience's attitude toward training in general?
- o What problems does this audience have with learning new things?
- o Can you tell me about this group's entry-level skills?
- o What can you tell me about previous attempts to solve this problem by training?
- o How would you describe the audience's attitude toward the problem we are examining?

Discussion

Approach the trainer with a full explanation of your tasks and responsibilities. Ask for insights with regard to working with this target audience and to the problem as it has been stated. This interview should provide your best information about audience attitudes and the history of prior training efforts.

IDEAL PERFORMANCE

Topics To Be Covered

- o Description of ideal performance
- o Documentation of ideal performance, such as training materials, job descriptions, performance appraisals
- o Written guidance for the target audience about ideal performance
- o Goals commonly held and respected by current practitioners
- o Norms, rules, customs, laws, or other sanctions governing or affecting ideal performance
- o Expectations of managers, owners, customers, or others directly benefited or hurt by audience performance

Typical Questions

- o How would you describe ideal performance?
- o Can you show me any training materials you use that describe desired audience performance?
- o What can you tell me about the everyday duties of this audience?
- o How do your training responsibilities relate to these duties?
- o May I observe any of your training sessions? When and where?

Discussion

Some trainers with generalized training responsibilities or expertise in other areas may not have answers for this category of questions. Knowledge here depends upon the specific things this trainer teaches. If this is a trainer responsible for teaching the specific skills you are studying, he or she may be a rich resource. At the same time, you may appear threatening to a trainer who has these responsibilities. Be cautious and tactful.

CURRENT PERFORMANCE

Topics To Be Covered

- o What is actually taking place as defined by the trainer
- o Documentation of current performance by this or other trained observers

Typical Questions

- o Can you describe the way these tasks or this job are being done today?
- o What are some of the things you think are being done right and wrong?
- o Can you show me any documentation of observation or studies you or others have done about the performance problem?
- o How has performance improved or declined over the past year?

Discussion

A trainer who has been closely involved with the audience, particularly after training has been completed, may be able to contribute information in this area. Begin with questions about the trainer's own observations and follow with questions about current performance.

PERFORMANCE DISCREPANCIES

Topics To Be Covered

- o Specific departures from desired performance
- o Desired changes
- o Capacity of entry-level and low-performance individuals to see and understand the difference between actual performance and desired performance

Typical Questions

- o What could be done better than it is being done now?
- o What training are you giving that is directed at the problem?
- o What management requirements are you aware of that call for improvement or change in performance?

Discussion

If the trainer teaches in the specific field you are studying and is also a skilled practitioner, you should get a lot of information about what could be done better. If the trainer deals primarily with related subject matter, the information you get may be of less value to you since the trainer is essentially an observer to a process he or she may not fully understand.

CLARIFYING THE PROBLEM

Topics To Be Covered

- o Skill limitations that indicate entry-level skill or knowledge deficits not easily correctable by training
- o Skill limitations associated with low entry-level performance that are correctable with specific remedial training

- o Training or remediation that can be carried out prior to job entry
- o Training required after entry, such as further remediation or on-the-job coaching or training
- o Possible instructional goals of remedial training
- o Performance discrepancies that are clearly the result of management practices, economic conditions, custom, sanction, other social controls, or other factors not clearly changeable by training

Typical Questions

- o Can you tell me more about the overall situation? How long have you been involved with this group?
- o What can you tell me about efforts by management to solve the problem?
- o What has the government done to deal with the problem?
- o Can you tell me about the abilities of new workers today compared with five years ago?
- o What is being done to provide in-service training after someone goes to work?

Discussion

If the trainer is in a position to be aware of the current problem, he or she may be able to provide information about the possible roles of management, government, and other influences in affecting the situation. Allow the trainer time to talk about these subjects in general, with limited specific questioning. At the same time, avoid leading the trainer to focus only on problems unrelated to training.

CURRENT SOLUTION ANALYSIS

Topics To Be Covered

- o Inventory of solutions currently available, including the nature or medium and quality of each
- o Analysis of portions of the audience best served by current solutions
- o Solutions or sources of expertise accessible but currently unused and reasons for lack of use

Typical Questions

- o Can you tell me about the training you are doing now or plan for the immediate future?
- o Can you show me any training materials?
- o What other training materials do you know about that I should review?
- o What do you think about the quality of all available materials?
- o What has been the success rate with these materials?

Discussion

The trainer almost certainly holds some of the inventory of solutions available to this audience. Ideally, find time to visit training sessions. If you are not able to see training in process, review any relevant training materials as part of the literature review; the trainer should be able to help you identify appropriate materials. This part of the interview should focus on the location and trainer's general assessment of such materials.

SOLUTION RECOMMENDATIONS

Topics To Be Covered

- o Prioritized list of major training needs
- o Major available training-related solutions
- o Major attainable nontraining solutions suggested by findings
- o Solutions available versus solutions needed
- o Best training methods for this audience as revealed by audience analysis and current successful solutions
- o Range of training times required for the spectrum of performance problems across the audience

Typical Questions

- o What do you consider are the greatest training needs of this audience?
- o Why do you see these as needs?
- o What additional needs do you see?
- o How much time is usually spent per year in training this audience?
- o How much time will individuals usually give willingly to learn new skills?
- o What could be changed about management or administration that would improve performance?

Discussion

The trainer will be able to help you focus on training and nontraining solutions but may be in a difficult position if training itself is weak. There will be a natural tendency to point to other causes of the problem than training.

Use questioning to focus on major training needs, prioritization of needs, and best training methods. Be sure to ask about experience with different media and their availability for this audience.

INCORPORATING SOLUTIONS

Topics To Be Covered

- o Readiness of the target audience for new solutions
- o Best delivery media for each training solutions
- o Distribution of target audience in terms of training needs and geographic location
- o Availability of delivery channels for each training solution
- o Logical sequence to introduce high-priority solutions
- o Availability of external support (government, other)
- o Time outside support or resources would be needed

Typical Questions

- o How do you think this audience would receive new training ideas?
- o What media, such as text, seminars, or videotape, do you think would be most effective?
- o How geographically dispersed is this audience? How do you think this would affect training?
- o What do you believe would be a good strategy for incorporating this type of solution?
- o What do you think would be necessary to get government, management, community support for this idea?

Discussion

The trainer can be a valuable ally in recommending and incorporating new training solutions. He or she can tell you what might be accepted or rejected and can advise you on appropriate strategy.

This individual is an exception to the general rule not to discuss possible solutions and how to get them incorporated. Spend as much time as possible here discussing alternative solutions and possible strategies for implementation.

PRACTITIONER INTERVIEWS

The skilled practitioner is a special member of the target audience, being both an expert and a representative of the audience. With good interviewing techniques, this person can tell you more about the problem and how it affects the audience than anyone else.

Approach the skilled practitioner as an expert. Since this individual is not likely to take part in training that may be conducted, having already mastered the necessary skills, it is possible to speak objectively with him or her about the situation and how the audience may feel about it. Remember, however, that this person may have more allegiance to the audience than to management or the sponsor of the needs analysis. Use tact when describing the audience and its capabilities and limitations.

How To Proceed

1. Review the topics to be covered under each general subject heading.
2. Review each topic's "Typical Questions" and "Discussion" for help in framing your own questions.
3. Record your interview notes on the Practitioner Interview work sheets in the Workbook. Make more work sheets as needed, using the master copies in Appendix C.

TARGET AUDIENCE DESCRIPTION

Topics To Be Covered

- o Age range and average age
- o Sex
- o General education level
- o Language

- o Reading, writing, number skills
- o Relevant religious, cultural characteristics
- o Economic considerations
- o Social, organizational (e.g., union) or government considerations
- o Existing skills, prior training
- o Experience with the tasks or job
- o Attitude toward situation or problem
- o General aptitude for training
- o Attitude toward training
- o Preferred learning methods
- o Prior problem solutions, including training

Typical Questions

- o What is the audience age range? How old is the average employee?
- o In a typical work group, how many are men? How many are women?
- o I need to know about how well this group reads. Could you show me something that most people would find easy to read?
- o What do most employees say is the problem?
- o What kind of problems could we have in offering training in how to do the job better?
- o When most people begin this job, what are they able to do immediately without much help? What work do they need help to learn to do?
- o How does this group feel about training?

Discussion

Use detailed questions to gather information from the practitioner about the audience. Focus particularly on the anticipated difficulties and predictable issues when dealing with the audience. Expect a certain amount of competitive response from the practitioner with regard to the rest of the target audience.

IDEAL PERFORMANCE

Topics To Be Covered

- o Description of ideal performance
- o Documentation of ideal performance, such as training materials, job descriptions, performance appraisals
- o Written guidance for the target audience about ideal performance
- o Goals commonly held and respected by current practitioners
- o Norms, rules, customs, laws, or other sanctions governing or affecting ideal performance
- o Expectations of managers, owners, customers, or others directly benefited or hurt by audience performance

Typical Questions

- o How would you describe good performance?
- o How would the manager describe-good performance?
- o How would the typical employee describe good performance?
- o What kind of performance requirements existed when you began working? How is it different today?
- o What kind of instruction or guidebooks does the audience have to help them understand or do their work?

- o What has more influence on good performance, rules or group norms?
- o Are there any customs or laws that affect performance?

Discussion

By definition, the skilled practitioner is a master of ideal performance. This individual is the example management and other employees use to define high-level performance. He or she may be modest and unwilling to accept this role or on the other hand, may be strongly self-assertive and competitive. In either case, listen carefully to what this person has to say.

CURRENT PERFORMANCE

Topics To Be Covered

- o What is currently taking place as defined by present skilled practitioners
- o Documentation of current performance by this or other trained observers

Typical Questions

- o Can you describe the way these tasks or this job are being done today?
- o What are some of the things you think are being done right and wrong?
- o Can you show me any documentation of observation or studies you or others have done about the performance problem?
- o How has performance improved or declined over the past year?

Discussion

As in the interview with the expert, the discussion of performance by the skilled practitioner is likely to center on

several factors: (1) what used to be done, (2) what ought to be done, (3) what doesn't get done, and (4) what the practitioner thinks about the problem. Be firm and directive in this part of the interview to keep the practitioner focused on what is actually taking place. Only in this way can you establish departures from ideal performance.

PERFORMANCE DISCREPANCIES

Topics To Be Covered

- o Specific departures from desired performance
- o Desired changes
- o Confirmation by practitioners that there are performance discrepancies
- o Capacity of entry-level and low-performance individuals to see and understand the difference between actual performance and desired performance

Typical Questions

- o Are the results what you would expect them to be?
- o How much better, in terms of quality or quantity, could the work be?
- o If the work were done really well, what would be different?
- o If you could change the way the work is done, how would you do that?
- o If you were to set a goal for improvement, what would the goal be?

Discussion

Also like the expert, the practitioner will generally comment on performance discrepancies from a technical point of view, i.e., more in terms of product or results than on profit impact. This is acceptable and appropriate in the practitioner interview.

CLARIFYING THE PROBLEM

Topics To Be Covered

- o Skill limitations that indicate entry-level skill or knowledge deficits not easily correctable by training
- o Skill limitations associated with low entry-level performance that are correctable with specific remedial training
- o Training or remediation that can be carried out prior to job entry
- o Training required after entry, such as further remediation or on-the-job coaching or training
- o Possible instructional goals of remedial training
- o Performance discrepancies that are clearly the result of management practices, economic conditions, custom, sanction, other social controls, or other factors not clearly changeable by training

Typical Questions

- o What do you believe contributes to the problem--lack of appropriate training or other causes?
- o If other causes, what are some of them?
- o Are the people who are hired capable of learning what must be learned?
- o Do people have enough training before they begin the job?
- o What things that are not currently taught should be taught?

Discussion

Generally, you should be able to get more frank and open answers from the practitioner than from the general target audience. The skilled practitioner will be more like the expert and may speak bluntly about feelings about management, government, or other employees. Allow time for these comments to be made, but focus on specific questions about the problem.

CURRENT SOLUTION ANALYSIS

Topics To Be Covered

- o Inventory of solutions currently available, including the nature or medium and quality of each
- o Analysis of portions of the audience best served by current solutions
- o Solutions or sources of expertise accessible but currently unused and reasons for lack of use

Typical Questions

- o How long have you worked in this role?
- o Can you tell me about some of the changes you have seen?
- o Are things better or worse now than they were one, three, five years ago?
- o What other solutions been tried to deal with this problem?
- o What were the results?
- o What, if any, solutions are being tried now? How are they working?
- o Why do you think each solution has been successful or unsuccessful?
- o Have some members of the target audience done better than others with the solutions? Do you know why?
- o Are there solutions available now that aren't being used? Why?

Discussion

The practitioners you interview may at present be implementing solutions to deal with the problem, or they may have tried other solutions previously. They will probably be knowledgeable about the solutions introduced, but they may also be sensitive to implied criticism.

A good way to start this part of the interview is to ask general questions about the practitioner's own history as part of the target audience, the work involved, and then the solutions.

SOLUTION RECOMMENDATIONS

Topics To Be Covered

- o Prioritized list of major training needs
- o Major available training-related solutions
- o Major attainable nontraining solutions suggested by findings
- o Solutions available versus solutions needed
- o Best training methods for this audience as revealed by audience analysis and current successful solutions
- o Range of training times required for the spectrum of performance problems across the audience

Typical Questions

- o Can we review some of the best training solutions? (List solutions discussed and ask for clarification or confirmation.)
- o We talked about several additional training solutions that are not available now. (List solutions discussed and ask for clarification or confirmation.)
- o Let's talk again about problems that could be resolved by solutions other than training. (List solutions discussed and ask for clarification or confirmation.)

Discussion

The answers to the questions in this section may already have been given as answers to questions about solutions. Use your notes from the interview to clarify any of the questions that remain unanswered. You may want to list some of the major points you have learned on a sheet of paper to review with the practitioner.

INCORPORATING SOLUTIONS

Topics To Be Covered

- o Readiness of the target audience for new solutions
- o Best delivery media for each training solution
- o Distribution of target audience in terms of training needs and geographic location
- o Availability of delivery channels for each training solution
- o Logical sequence to introduce high-priority solutions
- o Availability of external support (government, other)
- o Time outside support or resources would be needed

Typical Questions

- o How do you think the target audience would accept a change?
- o Is there anyone who might be bothered by changes?
- o Do you think training for this audience would be easier to learn from written instructions or from a teacher?
- o Which of these training media are commonly used in this area: text, seminars, slides, audiotapes, videotapes, computers?

- o Can you show me on a map where most of the target audience is located?
- o Are there some areas where there is a special need that is different from the others?
- o Whose support would be needed to incorporate these solutions?
- o How much support exists today? Where does it come from?

Discussion

During the interview, you will have come up with numerous potential problem causes and solutions. Although you will not want to rely on the recommendations of the skilled practitioner alone, it will be helpful to learn what his or her ideas are for incorporating solutions. Use a "what if" questioning style: for example, "What if we were to provide training in inventory control. How do you think the target audience would respond?"

OTHER INTERVIEWS

Naturally, it is possible to conduct a complete needs analysis without talking to anyone but experts, the target audience, managers and business owners, trainers, and skilled practitioners. On the other hand, other interviews can produce insights--or even new definitions of the problem--not provided by any of these people. These include interviews with:

- o Co-workers not included in the target audience or other core interview groups
- o Customers
- o Vendors
- o Bankers and creditors
- o Family
- o Other members of the community

These interviews may not be as formal and comprehensively organized as the other interviews you conduct. It may be necessary, for example, to collect information from a number of brief telephone conversations and chance meetings. The Other Interviews Checklist included in Appendix C and in the Workbook lists areas where you may gain different perspectives from interviewees outside the core group. Do not expect to cover each topic with each interviewee.

How To Proceed

1. Periodically review the topics listed under Other Interviews in Appendix C as you proceed through the needs analysis and encounter individuals outside the specified interview groups. These people may have a significant contribution to make to your information gathering. You may get referrals to such individuals from persons in the core interview groups or you may have to find them on your own.
2. Use the Other Interview data collection sheets for recording your notes.

VII. PHASE 3: DOCUMENTATION AND REPORT PREPARATION

The needs analysis documentation process begins with the analyst's first statement on the needs analysis plan and ends only when the final report is accepted. The needs analyst's contribution to the final set of solutions that is adopted is fundamental, a contribution that depends upon accurate and complete documentation. Much of the documentation is preliminary and used by the analyst alone to prepare reports. Frequently, however, other team members, such as training designers and developers, must carry on the project. In such cases, the existence of good documentation is vital.

The preliminary documentation assembled by the needs analyst includes:

- o The needs analysis plan
- o Notes from interviews
- o Notes from literature review
- o Notes from observation sessions
- o Copies of material acquired during literature review

The formal documentation prepared by the needs analyst for review by others includes:

- o A preliminary needs analysis report
- o The final needs analysis report

PRELIMINARY DOCUMENTATION

The use of systematic documentation has a number of advantages for both the needs analysis process and subsequent training design and development.

1. The Needs Analysis Plan

A well-documented needs analysis plan leads to efficient use of time during the process. It helps to pace the effort and to insure that important interviews, observation sessions, and other events are scheduled and take place as planned.

The needs analysis plan serves as a useful lens through which the client or the analyst's management can view the process without undue involvement. If the plan misses significant items, corrections are possible prior to the analysis.

The plan is an efficient tool for review after the fact. In some cases, it may be necessary to do a second needs analysis, either in the same location or somewhere else. The plan permits reliable replication.

2. Literature Review

Notes from literature review and actual copies of useful materials can be very helpful in training design. Having comprehensive notes and original materials at hand can reduce the designer's detailed research. Good overall documentation by the needs analyst eliminates the necessity of the designer's going over much of the same material again.

3. Interviews

Notes from interviews allow the interviewer to capture important comments. Careful documentation also allows comparison between sources.

4. Observation

Careful recording of observation sessions is helpful for both the needs analysis process and training design. For the needs analysis, documentation catches what is actually taking place so that the differences between ideal and actual performance can be clearly seen. For training design, detailed and accurate notes about the performance process contribute to the design's performance task analysis and resulting instructional objectives.

5. The Training Design Process

In many cases, the training designer expects to conduct the performance task analysis with more detailed interviews and study of the job or tasks for which training may be necessary. If the designer cannot visit the target audience, then the interview and observation notes of the needs analyst may have to suffice. In this case, or if the needs analyst is also the training designer, the content of the interviews must be highly explicit with regard to ideal performance.

GUIDELINES FOR DOCUMENTATION

Following are some basic rules and cautions for documentation during the needs analysis process.

- o Document regularly and at least daily. Information that is not recorded quickly can become vague and details become lost.
- o Document carefully. Be sure you record just what you actually discovered. If you are stating an impression or intuitive feeling, make sure that you note this. Do not guess or attempt to cover missing items with conjecture.
- o Cite all sources. With interviews and direct observation, identify the individual(s), the date and time, and the location of all meetings. With literature review, be certain to note the title, the author, publication date, and where you got the material. Work sheets included in the Information Log, Appendix C, will make the task of recording information relatively easy. Later, when you are gathering your information into more concise statements, using the Data Summary sheets in the Information Log, continue to state the date and source of information.
- o Maintain confidentiality. Do not share your notes with the individuals you interview or observe. Ideally, do not share your notes with the client until you have had a chance to prepare a preliminary report.
- o Keep all notes, regardless of their condition, until the training design is complete. Even though you may believe that you have taken the most important information from your notes as you consolidated them, the more detailed ones may be useful during the performance task analysis of the design process.

THE PRELIMINARY NEEDS ANALYSIS REPORT

Although it is possible to prepare just one needs analysis report, the culminating document is likely to be stronger and better organized and your writing tasks more evenly distributed if you consider a two-phase approach--a preliminary report followed by the final report.

The preliminary report:

- o Is frequently begun during the needs analysis process
- o Contains all the information that will eventually appear in the final report
- o Is prepared in a format that makes it readable and understandable but that may not entirely mirror the final format
- o Gives more attention to content and completeness than to polish
- o Should be reviewed by a few knowledgeable advisors

The final report:

- o Is completed only after the analyst has fulfilled all aspects of the needs analysis effort
- o Reflects feedback received on the preliminary report
- o Has a broader range of readers than the preliminary report; these include all responsible users of the results of the analysis: the training designer, members of the client or sponsoring organization, and members of the target audience who may have a decision-making role in accepting and implementing solution recommendations

Advantages of a Preliminary Report

A preliminary needs analysis report gives the analyst a number of advantages:

1. A focus on the content of the report while the analyst is still on site (if he or she is not part of the community) permits verification that all the necessary information has been gathered before departure.
2. A preliminary report can contain back-up information and detail that will not necessarily appear in the final report. This provides a permanent record of data useful to the design and development team.
3. The sharing of a preliminary report with the designer and members of the development team may help to expose areas of weakness, redundancy, or inconsistency. A preliminary report, by definition, is tentative. It allows the analyst to test completeness and accuracy of data, organization of the data, viability of recommendations, and effectiveness of presentation with fewer risks than will exist when the final report is submitted to its broader audience.

Constructing the Preliminary Report

Each analyst has personal style preferences and methods for organizing reports. The following, however, is a suggested sequence of events leading to the logical development of both the preliminary and final reports that should be helpful.

1. Identify all recipients of both reports.
2. For each recipient, consider what information will be most useful and what that recipient expects to see. If recipients and their needs vary greatly, consider using an executive summary or introduction giving a comprehensive overview along with a detailed table of contents. This will allow each reader to go quickly to the information he or she needs.
3. Set up an outline, or the detailed table of contents, to define the structure of your report.
4. Set goals for length and amount of detail. Set deadlines for the dates you will (1) complete the preliminary report, (2) conduct discussions of the report with a few knowledgeable advisors from both your team and the client's, and collect feedback, (3) revise the report and create a final version, and (4) conduct any further presentations or discussions.
5. Gather all interview notes, literature, literature review notes, observation notes, and other information you may have. Review this information to be sure that names, places, dates, and other pertinent data are listed.
6. Plan any tables and graphs you intend to use in the report. Identify the sources of the data they will contain.
7. If you are preparing what will be the substance of the performance task analysis, be sure to cover all the information the training designer will need. Include it in an appendix rather than in the body of the preliminary report. This detail will not appear in the final report.
8. Prepare each section of the report according to the structure recommended below. When dealing with solutions, include all the solutions that have been considered, even if you have discarded them. This permits the people who will review your report to know what you and others have already considered.

9. Prepare a complete draft of the report. Discuss its structure and content with at least one other person, such as the training designer, before you distribute it.
10. Clearly mark the report as preliminary. Prepare a cover letter to accompany the report that explains its purpose, requests feedback, and sets a time when you will contact the recipient for comments.

Recommended Structure for the Preliminary Report

Consider the following structure for your needs analysis report. Individual circumstances will dictate modifications, but be sure to include these key sections:

1. Title page
 - o Name of the project
 - o Inclusive dates of study
 - o Date of submission, if different from above
 - o Your name
 - o Your organization's name
 - o The needs analysis' intended use (e.g., "for the preparation of training materials for Organization X")
 - o Label "Preliminary Report"
2. Copyright notice, if applicable
3. Contents
 - o Detailed outline
 - o Annotations for specific readers (such as "Recommended to those reviewing only the Executive Summary")
4. List of tables
5. Preface
 - o Preliminary report distribution list
 - o Purpose of the preliminary report
 - o Request for comments
6. Acknowledgments
 - o Name of the client organization
 - o Names of sponsoring individuals or organizations
 - o Efforts of individuals or organizations

7. Executive summary or introduction

- o Concise description of the entire project
- o Statement of the purpose of the needs analysis
- o Description of the overall needs analysis process
- o Description of individual methods used
- o Key individuals contacted
- o Statement of problem as defined by the needs analysis
- o Summary of desired performance
- o Summary of current circumstances and performance
- o Description of performance discrepancies
- o Summary of prior attempted solutions
- o Summary of available solutions
- o Recommended solutions
- o Recommended methods for incorporating solutions

8. Target audience description

- o Complete profile of the target audience, covering the demographic and other detail specified in the target audience description checklist (presented in tabular rather than paragraph form)

9. Ideal performance

- o Methods and sources used to obtain information
- o Detail of all other topics specified in ideal performance checklists
- o Broad description of tasks or job analyzed
- o Specific task analysis information obtained (in tabular form)

10. Current performance

- o Methods and sources used to obtain information
- o Refinement of the problem statement as indicated by interviews and observation
- o Subproblems revealed by the needs analysis that may need to be considered later
- o Additional detail that will assist the task analysis
- o Additional data that will be needed by the designer but that has not been available for the needs analysis; this should include potential sources

11. Performance discrepancies

- o Detail of topics specified in the performance discrepancies checklists
- o Analysis of findings
- o Final problem statement

12. Clarifying the problem
 - o Interpretation of problems as to source, e.g., training or nontraining factors
 - o Evaluation of existing entry-level knowledge and skills
 - o Possible pre-entry remedial training requirements
 - o Possible on-the-job training requirements
13. Current solution analysis
 - o Summary of all past and present solutions considered
 - o Brief statement of viability of each solution, with advantages and disadvantages
 - o List of solutions rejected, for the information of future analysts
 - o Detail of all other topics specified in current solution analysis checklists
14. Solution recommendations
 - o Detail of topics specified in solution recommendations checklists
 - o Specific recommendations for nontraining solutions
 - o Specific recommendations for training solutions
 - o Recommendations and cautions for the designer (such as possible audience attitude problems, etc.)
15. Incorporating solutions
 - o Detail of topics specified in the incorporating solutions checklist
 - o Recommended training media
 - o Recommended delivery methods
 - o Suggested strategies for promoting acceptance of the solutions
 - o Suggested timetable for incorporating solutions and ending external support, if any
16. Appendixes
 - o Copy of needs analysis plan
 - o List of all persons interviewed and observed, including roles and/or tasks observed
 - o Copies of all questionnaires used
 - o Copies of all data collection sheets used
 - o Copies of completed data summary forms
 - o List of available formal and informal literature annotated as to what was actually reviewed
 - o List of available training, annotated as to what was actually viewed or reviewed with trainers

THE FINAL NEEDS ANALYSIS REPORT

The final report need not be a completely rewritten document. Portions of the preliminary report may be used intact; other portions may require editing as a result of responses to the preliminary report. Following are the major sections of the final report with changes from the preliminary report noted.

1. Title page
 - o Label "Final Report"
 - o Date of report
2. Copyright notice, if applicable
 - o No change
3. Contents
 - o Less fine detail than preliminary report contents
 - o Annotations are optional
4. List of tables
 - o No change
5. Preface
 - o Final report distribution list
 - o Schedule of presentations planned
 - o Offer to clarify or respond to questions
6. Acknowledgments
 - o Add contributions of preliminary report reviewers
7. Executive summary or introduction
 - o No change
8. Audience description
 - o No change
9. Ideal performance
 - o No change

10. Current performance
 - o Remove highly detailed, designer-oriented material
11. Performance discrepancies
 - o Highlight the problem statement
 - o Summarize other problems identified but not directly related to the central problem
12. Clarifying the problem
 - o No change
13. Current solution analysis
 - o No change
14. Solution recommendations
 - o Greater specificity about recommendations, if possible; identify responsible groups and necessary resources
15. Incorporating solutions
 - o Greater specificity
16. Appendixes
 - o Copy of needs analysis plan
 - o Listing of all persons interviewed and observed, as before
 - o Remove other appendixes

VIII. PHASE 4: APPLICATION OF THE NEEDS ANALYSIS TO TRAINING DESIGN AND EVALUATION

The task of the needs analyst does not end with completion of the final report. The report simply provides the information that will be used by the client and/or project organization to make decisions about how to proceed.

Assuming that the decision is to go forward with training design and development, the experience and understanding of the needs analyst will be significant in this effort. If the needs analyst is not to be the designer, the analyst will in effect become an expert with information resources needed by the designer. Since the needs analysis report will probably not answer all the designer's questions, the analyst should be available to the design and development team.

There are four basic areas where the needs analysis relates directly to the training design, development, and evaluation processes.

- o Incorporation of analysis findings into the training design
- o Development of training materials
- o Implementation and evaluation of the training materials
- o Evaluation of the solution's effectiveness

INCORPORATION OF ANALYSIS FINDINGS INTO THE TRAINING DESIGN

Chapter II outlined the overall design process. Without repeating the entire process, here are key areas that relate directly to information acquired during the needs analysis.

o Target audience description

The design must provide a clear statement of the audience for whom training is intended. Without such a statement, the development team cannot fully understand to whom the material is to be addressed. The audience description also helps to identify other appropriate resource material and other designs against which the present work can be compared. The needs analysis provides nearly all the information required by the designer for audience description.

There may be a tendency on the part of the needs analyst to move quickly through the audience description since often "everyone knows" the intended audience. This is not always the case, however, and what "everyone knows" may be superficial or actually wrong. It is for this reason that it is important to have answers to all the questions in the target audience description checklist.

o Performance task analysis

It is virtually impossible to create a workable training design without a performance task analysis. While an expert may create a mental picture of what must be taught, the designer must have an explicit description of the entire process. If the designer cannot visit the target audience or engage in interviews and observation, the performance task analysis falls to the needs analyst.

It is important to note that the needs analyst need not know how to produce training designs to prepare a fully usable performance task analysis. What the analyst must do is make a complete inventory of all knowledge and skills required to perform the job. This includes both entry-level skills and skills that will be learned on the job after training.

A good performance task analysis is not a highly complex instrument. It is simply an organized inventory of the ideal performance component of the needs analysis. If the analyst has covered this component well, the designer should be able to use the analyst's report, supplemented with a minimal amount of additional information gathering, to complete the analysis.

o Instructional task analysis

The designer performs this analysis with little direct, personal input from the needs analyst. The analyst provides help, however, by being as specific as possible in the needs analysis report about typical entry-level skills and knowledge and available on-the-job training. Without this information, the designer may make assumptions about training that do not fit the audience's needs.

o Design review

The designer depends primarily upon experts, the client, and the development team for preliminary validation of the design. The needs analyst becomes a special type of expert in this case and may be an ideal person to review the design. The training objectives, in particular, can be usefully reviewed by the analyst, who, with recent exposure to the target audience, can verify their plausibility and sequencing.

DEVELOPMENT OF TRAINING MATERIALS

The process of developing materials varies substantially from project to project. In one case, there may be an entire curriculum developed without incorporating any existing materials; in another, the design may simply specify the use of available material without any new development. Another aspect of the needs analyst's role in support of the design is to insure that the designer is fully aware of available resources.

Literature review is in considerable part directed to satisfying the analyst's need for information about the audience and the problem, but it also is an inventory process. As the analyst reviews documentation, references, and even existing training, he or she compiles a valuable set of resources for the designer to consider in preparing the training materials specifications.

The analyst also provides the first stage of screening for existing documentation. By considering the materials directly and by reviewing the target audience's use and opinion of them, the analyst has helped to determine what would and would not be suitable for the final training package. For this reason, a serious documentation effort by the analyst and inclusion of all relevant documents in the report are extremely important.

IMPLEMENTATION AND EVALUATION OF TRAINING MATERIALS

The analyst's role in the implementation and evaluation of the developed training product may range from no involvement at all to full responsibility for the task. Certainly, implementation is the culmination of the effort begun by the analyst with recommendations in the needs analysis. Here are several reasons why it is desirable to have the analyst at least follow the implementation and evaluation processes.

1. As the original analyst, he or she is known by the audience and may be especially trusted by them in the organization and implementation of field tests of the final product.
2. As the specifier of recommendations, the analyst (unless he or she is also the designer or developer) is in a good position to help evaluate the end product.

3. Because the analyst is particularly familiar with the subject environment and the people in it, he or she may be in a good position to organize the training program, either alone or as an advisor.

Aside from these logical considerations, there is no specific reason why the analyst must be involved in implementation or evaluation. The analyst, however, may want to be involved in order to be able to check on the validity of the analysis itself.

EVALUATION OF THE SOLUTION'S EFFECTIVENESS

If the design and development of the new training or problem solution resulted from a needs analysis, then it is reasonable to expect that a second, follow-up needs analysis can be used to evaluate the changes brought about. To do a second needs analysis provides not only a confirmation of original assumptions but also permits refinement of the training or solution to provide an even better solution.

Field Tests

First, it is important to understand that a follow-up needs analysis is not the same as a field test of a training solution. The field test focuses on the solution itself and whether the solution is consistent with the design from which it was developed. It centers on successful implementation but does not provide for a broad study of the audience and the problems they may have.

The second needs analysis, on the other hand, strives for a complete picture of the audience and its attempts to improve performance and overcome problems. By focusing on the audience and its needs, the second needs analysis provides the substance for repeated study and the development of numerous alternative solutions.

The field test usually takes place only once, with just one group of trainees. The results are used to make changes to the training solution and to implementation procedures. The entire field test effort generally ends within six months of completion of the development effort.

The Follow-Up Needs Analysis

The second needs analysis, applied to validate the results of the first, is similar in many of its essentials but not absolutely the same as the first needs analysis. Following are the most important differences between the first and second analyses.

- o The second analysis need not redefine the audience. It must, however, verify that the audience is still essentially the same as that studied previously.
- o The second analysis need not reanalyze ideal performance. It must confirm, however, that no changes have taken place that might invalidate the original findings. For example, a substantial change in economy, political structure, or target audience might make such a dramatic change in an industry that the original values and job structures no longer apply.
- o In the second analysis, consideration of performance discrepancies should focus on discrepancies as they relate to the new training, with less attention to previous solutions except as to the way they complement, support, or hinder the new solution.
- o Recommendations of the second analysis should focus primarily on necessary changes to the new training product or solution although they may also make reference to nontraining changes necessary for greatest success. For example, a solution focusing on credit training may provide necessary knowledge and skill to improve performance, but full improvement may depend upon nontraining changes in policy or communication.

Preferably, the follow-up needs analysis does not take place until at least six months or more after full implementation of developed training in order to give the new solution a fair trial. Further, needs analysis can be an ongoing effort taking place at periods ranging from three to six months or a year or more.

The continued success of the training product is an indication of the validity of both the analysis process and the training design. The new solution becomes the subject for needs analyses to come.

APPENDIX A

NEEDS ANALYSIS PLAN

Preliminary problem statement _____

Criteria for effective results _____

Target audience _____

Planned follow-up (e.g., second needs analysis) _____

Will training designer visit target audience? If not, what is
plan for performance task analysis? _____

NEEDS ANALYSIS PLAN
Information Gathering

LITERATURE REVIEW

Description

Location

INTERVIEWS

Experts

Qualifications

Location

Target audience

Job/Role

Location

704.

NEEDS ANALYSIS PLAN
Information Gathering

INTERVIEWS (continued)
Manager/Business owner

Title

Location

Trainer

Expertise

Location

Practitioner

Expertise

Location

Others

Role

Location

OBSERVATION

Individual

Role

Location

105-

APPENDIX B

NEEDS ANALYSIS CHECKLIST

NEEDS ANALYSIS CHECKLIST

This checklist is provided to help insure that a substantial number of questions regarding the major needs analysis topics have been answered. Use the checklist both as you proceed through the analysis process and at its conclusion to make sure that you have missed nothing of importance.

TARGET AUDIENCE

- _____ Description, using multiple sources of information and perspectives (target audience members, experts, managers, etc.; interviews, literature review, observation)
- _____ What are the age range and average age?
- _____ What is the audience's education level?
- _____ What reading, writing, and number skills do they have?
- _____ What language difficulties may exist for training?
- _____ What gender or cultural (social, religious, organizational) factors may affect performance or learning?
- _____ What economic or other external factors may affect performance?
- _____ What are the prior skills and training of the audience?
- _____ What documentation is there regarding prior performance?
- _____ What is the audience's aptitude for the tasks being examined?
- _____ What prior problem solutions have been attempted?
- _____ What is the audience's attitude toward potential training?
- _____ What are the audience's preferred training methods?
- _____ What is the audience's attitude toward this analysis?

IDEAL PERFORMANCE

- _____ How is ideal performance described by experts, trainers, and retired and current skilled practitioners?
- _____ How is ideal performance described by entry-level people?
- _____ What documentation of ideal performance exists (including training materials, job descriptions, performance appraisals, and previous studies)?
- _____ What are the expectations of managers, business owners, customers, or others directly benefited or hurt by performance?
- _____ What norms, rules, social customs, laws, or other sanctions govern or affect ideal performance?
- _____ What goals are perceived by the needs analyst as being commonly held and respected by current skilled practitioners?

CURRENT PERFORMANCE

- _____ How is current performance defined by present skilled practitioners?
- _____ How is current performance defined by managers, business owners, or others who directly benefit or are hurt by performance?
- _____ How is current performance defined by peripheral persons, such as co-workers, customers, vendors, or others, who are in a position to do so?
- _____ How does the needs analyst define current performance on the basis of direct observation?
- _____ How is current performance defined in documentation by other trained observers?

PERFORMANCE DISCREPANCIES

- _____ What are the differences between actual performance and desired performance?
- _____ Have performance discrepancies been verified by skilled practitioners, managers and business owners, trainers, and other experts?
- _____ Can entry-level and low-performance individuals identify and understand the differences between actual and desired performance?

CLARIFYING THE PROBLEM

- _____ What entry-level skill limitations or knowledge deficits exist that are not easily correctable by training?
- _____ What entry-level skill limitations exist that are correctable with specific remedial training?
- _____ What training or remediation can be carried out prior to job entry?
- _____ What training is required after job entry, such as further remediation or on-the-job coaching or training?
- _____ What are the possible instructional goals of remedial training?
- _____ What performance discrepancies are clearly the result of management practices, economic conditions, custom, sanction, other social controls, or other factors not clearly changeable by training?

CURRENT SOLUTION ANALYSIS

- _____ What solutions are currently available? What are the nature or medium and quality of each?
- _____ What has prior experience been in matching solutions with the target audience?

CURRENT SOLUTION ANALYSIS (continued)

- _____ Who among the target audience are best served by current solutions?
- _____ What have been the reasons for limited impact of solutions, such as audience untrainability, inappropriateness of materials, or nontraining-related factors, e.g., external controls or sanctions?

SOLUTION RECOMMENDATIONS

- _____ What are the major training needs in order of priority?
- _____ What major training-related solutions are available?
- _____ What major nontraining solutions are available?
- _____ What are the solutions available versus the solutions needed?
- _____ What are the best training methods for this audience as suggested by audience analysis and current successful solutions?
- _____ What is the range of training times required for meeting performance problems?

INCORPORATING SOLUTIONS

- _____ How ready is the target audience for new solutions?
- _____ What are the best delivery media for each training solution?
- _____ What is the distribution of the target audience in terms of training needs and geographic location?
- _____ What delivery channels are available for each training solution?

INCORPORATING SOLUTIONS (continued)

_____ In what sequence should high-priority solutions be introduced?

_____ What external support (government or other) is available?

_____ How long will external support or resources be needed?

APPENDIX C
INFORMATION LOG

Literature Review Checklist

NOTE: It may not be possible to find documentation of each topic listed here. Use the list as a framework for literature review.

TARGET AUDIENCE DESCRIPTION

- ___ Age, sex, education
- ___ Language, language skills
- ___ Religious, cultural characteristics
- ___ Existing skills, prior training
- ___ Experience with tasks, job
- ___ Attitude toward problem
- ___ Aptitude for, attitude toward training
- ___ Preferred learning methods
- ___ Prior solutions, including training

IDEAL PERFORMANCE

- ___ Description of ideal performance
- ___ Documentation (job descriptions, training materials, etc.)
- ___ Sanctions (rules, customs, laws)
- ___ Expectations of managers, owners, others

CURRENT PERFORMANCE

- ___ Description by practitioners, other trained observers
- ___ Description by managers, owners, others

PERFORMANCE DISCREPANCIES

- ___ Departures from ideal performance
- ___ Desired changes

CLARIFYING THE PROBLEM

- ___ Uncorrectable entry-level limitations
- ___ Correctable entry-level limitations
- ___ Pre-entry remediation or training
- ___ Post-entry remediation or training
- ___ External factors

CURRENT SOLUTION ANALYSIS

- ___ Currently available solutions
- ___ Prior solution experience
- ___ Those best served by current solutions
- ___ Solution successes and failures
- ___ Solution success analysis
- ___ Unused solutions, expertise

SOLUTION RECOMMENDATIONS

- ___ Prioritized training needs
- ___ Available training solutions
- ___ Available nontraining solutions
- ___ Solutions available vs.
solutions needed
- ___ Best training for this audience
- ___ Training times

INCORPORATING SOLUTIONS

- ___ Geographic distribution of
target audience
- ___ Best delivery media
- ___ Alternative implementation
methods
- ___ Enlisting external support
- ___ Time supports required

OTHER

- ___ _____
- ___ _____
- ___ _____
- ___ _____
- ___ _____
- ___ _____

LITERATURE REVIEW

Title _____

Topics covered _____

Source _____

Author _____

Date _____

Interviewee _____

Needs analysis name _____

Problem statement _____

Subtopics, if applicable _____

Interview location _____

Date _____ Start time _____ Finish time _____

Expert address _____

Phone _____

Areas of expertise _____

Experience, credentials _____

- ___ Age, sex, education
- ___ Language, language skills
- ___ Social, cultural, religious,
economic considerations
- ___ Existing skills, prior training
- ___ Experience with tasks, job
- ___ Attitude toward problem
- ___ Aptitude for, attitude toward
training
- ___ Preferred learning methods
- ___ Prior problem solutions,
including training

Interviewee _____

Target Audience Description

Questions to ask/ Items to look for	Responses/Results

- Description of ideal performance
- Documentation (job descriptions, training materials, etc.)
- Sanctions (policies, customs, laws)
- Expectations of managers, owners, others

Interviewee _____

Ideal Performance

Questions to ask/ Items to look for	Responses/Results

— Actual performance
— Management assessment
— of performance

Interviewee _____

Current Performance

Questions to ask/ Items to look for	Responses/Results

_____ Departures from ideal
performance

Interviewee _____

Performance Discrepancies

Questions to ask/ Items to look for	Responses/Results

- Available solutions
- These best served by current solutions
- Unused solutions, expertise

Interviewee _____

Current Solution Analysis

Questions to ask/ Items to look for	Responses/Results

- ___ Perceived best solutions
- ___ Major training-related solutions needed
- ___ Best training methods for this audience

Interviewee _____

Solution Recommendations

Questions to ask/ Items to look for	Responses/Results

- Possible changes for improvement Interviewee _____
- Comparison with high performer
- Possible personal improvements Performance Discrepancies
- Possibility of improvements in
- low performers
- Benefits to individuals of
- improved performance
- Benefits to the organization
- or group of improved
- performance

Questions to ask/ Items to look for	Responses/Results

- ___ Uncorrectable entry-level limitations Interviewee _____
- ___ Correctable entry-level limitations Clarifying the Problem
- ___ Pre-entry remediation or training
- ___ Post-entry remediation or training
- ___ Possible instructional goals of remedial training
- ___ External factors

Questions to ask/ Items to look for	Responses/Results

- Description of ideal performance
- Documentation, stories re ideal performance
- Common performance goals
- Written guidance
- Sanctions (policies, customs, laws)

Interviewee _____

Ideal Performance

Questions to ask/ Items to look for	Responses/Results

- ___ Permission to observe
- ___ Description of work process
- ___ Identification of high performer

Interviewee _____

Current Performance

Questions to ask/ Items to look for	Responses/Results

Interviewee _____

Group _____

Needs analysis name _____

Problem statement _____

Subtopics, if applicable _____

Interview location _____

Date _____ Start time _____ Finish time _____

Audience member's address _____

Phone _____

Audience member's role _____

Description (age, education, experience, etc.) _____

- ___ Age, sex, education
- ___ Language, language skills
- ___ Social, cultural, religious,
 economic considerations
- ___ Existing skills, prior training
- ___ Experience with tasks, job
- ___ Attitude toward problem
- ___ Aptitude for, attitude toward
 training
- ___ Preferred learning methods
- ___ Prior problem solutions,
 including training

Interviewee _____

Target Audience Description

Questions to ask/ Items to look for	Responses/Results

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- Prioritized training needs
- Available training solutions
- Attainable nontraining solutions
- Solutions available vs. solutions needed
- Best training methods for this audience
- Training times

Interviewee _____

Solution Recommendations

Questions to ask/ Items to look for	Responses/Results

- ___ Readiness for change
- ___ Best delivery media
- ___ Training medium readiness
- ___ Audience distribution re
training needs, location
- ___ Available delivery channels
- ___ Solution sequence
- ___ External support
- ___ Time requirements

Interviewee _____

Incorporating Solutions

Questions to ask/ Items to look for	Responses/Results

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- ___ Uncorrectable entry-level limitations
- ___ Correctable entry-level limitations
- ___ Pre-entry remediation or training
- ___ Post-entry remediation or training
- ___ Possible instructional goals of remedial training
- ___ External factors

Interviewee _____

Clarifying the Problem

Questions to ask/ Items to look for	Responses/Results

- ___ Available solutions
- ___ Prior solution experience
- ___ Those best served by current solutions
- ___ Solution successes and failures
- ___ Successful solution analysis
- ___ Unused solutions, expertise

Interview _____

Current Solution Analysis

Questions to ask/ Items to look for	Responses/Results

— Readiness for new solutions
— Best media for training solutions

Interviewee _____
Incorporating Solutions

Questions to ask/ Items to look for	Responses/Results

Direct Observation Checklist

NOTE: The items included here are simply issues to be considered during the observation process, not topics necessarily requiring comment.

Observation is appropriate for target audience members and skilled practitioners at work and for training in process.

TARGET AUDIENCE

PERFORMANCE DISCREPANCIES

- | | |
|---|---|
| <input type="checkbox"/> Description | <input type="checkbox"/> Differences between current and ideal performance |
| <input type="checkbox"/> Language problems in training | <input type="checkbox"/> Desired changes |
| <input type="checkbox"/> Sex, education, background factors that may affect performance or training | <input type="checkbox"/> Perception of discrepancies by entry-level and low-performance practitioners |
| <input type="checkbox"/> Aptitude for required tasks | |
| <input type="checkbox"/> Attitude toward this analysis | |

CLARIFYING THE PROBLEM

IDEAL PERFORMANCE

- | | |
|---|---|
| <input type="checkbox"/> Ideal performance as described by entry-level practitioners | <input type="checkbox"/> Entry-level limitations not easily correctable by training |
| <input type="checkbox"/> Analysis of goals commonly held and respected by practitioners | <input type="checkbox"/> Correctable entry-level limitations |
| | <input type="checkbox"/> Pre-entry remediation or training |
| | <input type="checkbox"/> Post-entry remediation or training |

CURRENT PERFORMANCE

CURRENT SOLUTION ANALYSIS

- | | |
|---|--|
| <input type="checkbox"/> Interpretation of current performance by needs analyst | <input type="checkbox"/> Available solutions |
| | <input type="checkbox"/> Prior solution experience |
| | <input type="checkbox"/> Unused solutions, expertise |

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SOLUTION RECOMMENDATIONS

- ___ Prioritized training needs
- ___ Available training solutions
- ___ Attainable nontraining solutions
- ___ Solutions available vs.
solutions needed
- ___ Best training methods for
this audience
- ___ Range of training times

INCORPORATING SOLUTIONS

- ___ Readiness for change
- ___ Best delivery media

OTHER

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Name _____

Group _____

Task/job _____

Location _____

Date _____

Items to look for	Notes

Interviewee _____

Needs analysis name _____

Problem statement _____

Subtopics, if applicable _____

Interview location _____

Date _____ Start time _____ Finish time _____

Manager/business owner's address _____

Phone _____

Business/role _____

Description (age, education, experience, etc.) _____

- ___ Manager/owner background
- ___ Audience age, sex, education
- ___ Language, language skills
- ___ Social, cultural, religious,
economic considerations
- ___ Existing skills, prior training
- ___ Experience with tasks, job
- ___ Attitude toward problem
- ___ Aptitude for, attitude toward
training
- ___ Preferred learning methods
- ___ Prior problem solutions,
including training

Interviewee _____

Target Audience Description

Questions to ask/ Items to look for	Responses/Results

- Description of ideal performance
- Documentation (job descriptions, training materials, etc.)
- Sanctions (policies, customs, laws)
- Goals held by skilled practitioners
- Expectations of managers, owners, others

Interviewee _____

Ideal Performance

Questions to ask/ Items to look for	Responses/Results

____ Perception of current performance

Interviewee _____

Current Performance

Questions to ask/ Items to look for	Responses/Results

- Departures from ideal performance
- Desired changes
- Perception of discrepancies by entry-level and low-performance practitioners
- Attainable, measurable goals
- External factors

Interviewee _____

Performance Discrepancies

Questions to ask/ Items to look for	Responses/Results

- ___ Uncorrectable entry-level limitations
- ___ Correctable entry-level limitations
- ___ Pre-entry remediation or training
- ___ Post-entry remediation or training
- ___ Possible instructional goals of remedial training
- ___ External factors

Interview _____

Clarifying the Problem

Questions to ask/ Items to look for	Responses/Results

DATA COLLECTION SHEET

MANAGER/BUSINESS OWNER

- Available solutions
- Prior solution experience
- Those best served by current solutions
- Solution successes and failures
- Successful solution analysis
- Unused solutions, expertise

Interviewee _____

Current Solution Analysis

Questions to ask/ Items to look for	Responses/Results

- ___ Prioritized training needs
- ___ Available training solutions
- ___ Attainable nontraining solutions
- ___ Solutions available vs.
solutions needed
- ___ Best training methods for
this audience
- ___ Training times

Interviewee _____

Solution Recommendations

Questions to ask/ Items to look for	Responses/Results

- ___ Readiness for change
- ___ Best delivery media
- ___ Audience distribution re
 training needs/location
- ___ Available delivery channels
- ___ Solution sequence
- ___ External support
- ___ Time requirements

Interviewee _____

Incorporating Solutions

Questions to ask/ Items to look for	Responses/Results

Interviewee _____

Needs analysis name _____

Problem statement _____

Subtopics, if applicable _____

Interview location _____

Date _____ Start time _____ Finish time _____

Trainer's address _____

Phone _____

Expertise _____

Description (age, education, experience, etc.) _____

- ___ Age, sex, education
- ___ Language, language skills
- ___ Social, cultural, religious,
economic considerations
- ___ Existing skills, prior training
- ___ Experience with tasks, job
- ___ Attitude toward problem
- ___ Aptitude for, attitude toward
training
- ___ Preferred learning methods
- ___ Prior problem solutions,
including training

Interviewee _____

Target Audience Description

Questions to ask/ Items to look for	Responses/Results

- Description of ideal performance
- Documentation (training materials, job descriptions, etc.)
- Common performance goals
- Sanctions (policies, customs, laws)
- Expectations of managers, owners, others

Interviewee _____

Ideal Performance

Questions to ask/ Items to look for	Responses/Results

— Actual performance
— Documentation of current performance

Interviewee _____

Current Performance

Questions to ask/ Items to look for	Responses/Results

- Departures from ideal performance
- Desired changes
- Perception of discrepancies by entry-level and low-performance practitioners

Interviewee _____

Performance Discrepancies

Questions to ask/ Items to look for	Responses/Results

- Uncorrectable entry-level limitations
- Correctable entry-level limitations
- Pre-entry remediation or training
- post-entry remediation or training
- Possible instructional goals of remedial training
- External factors

Interviewee _____

Clarifying the Problem

Questions to ask/ Items to look for	Responses/Results

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- ___ Available solutions
- ___ Those best served by current solutions
- ___ Unused solutions, expertise

Name _____

Current Solution Analysis

Questions to ask/ Items to look for	Responses/Results

- Prioritized training needs
- Available training solutions
- Attainable nontraining solutions
- Solutions available vs. solutions needed
- Best training methods for this audience
- Training times

Interviewee _____

Solution Recommendations

Questions to ask/ Items to look for	Responses/Results

- ___ Readiness for change
- ___ Best delivery media
- ___ Audience distribution re
training needs/location
- ___ Available delivery channels
- ___ Solution sequence
- ___ External support
- ___ Time requirements

Interviewee _____

Incorporating Solutions

Questions to ask/ Items to look for	Responses/Results

Interviewee _____

Needs analysis name _____

Problem statement _____

Subtopics, if applicable _____

Interview location _____

Date _____ Start time _____ Finish time _____

Practitioner's address _____

Phone _____

Occupation/role _____

Description (age, education, experience, etc.) _____

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- ___ Age, sex, education
- ___ Language, language skills
- ___ Social, cultural, religious,
 economic considerations
- ___ Existing skills, prior training
- ___ Experience with tasks, job
- ___ Attitude toward problem
- ___ Aptitude for, attitude toward
 training
- ___ Preferred learning methods
- ___ Prior problem solutions,
 including training

Interviewee _____

Target Audience Description

Questions to ask/ Items to look for	Responses/Results

- Description of ideal performance
- Documentation (training materials, job descriptions, etc.)
- Common performance goals
- Sanctions (policies, customs, laws)
- Expectations of managers, owners, others

Interviewee _____

Ideal Performance

Questions to ask/ Items to look for	Responses/Results

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- ___ Actual performance
- ___ Documentation of current performance
- ___ Observation of current performance

Interviewee _____

Current Performance

Questions to ask/ Items to look for	Responses/Results
--	-------------------

- Available solutions
- Those best served by current solutions
- Unused solutions, expertise

Interviewee _____
Current Solution Analysis

Questions to ask/ Items to look for	Responses/Results

- ___ Prioritized training needs
- ___ Available training solutions
- ___ Attainable nontraining solutions
- ___ Solutions available vs.
solutions needed
- ___ Best training methods for
this audience
- ___ Training times

Interviewee _____

Solution Recommendations

Questions to ask/ Items to look for	Responses/Results

- Departures from ideal performance
- Desired changes
- Perception of discrepancies by entry-level or low-performance practitioners

Interviewee _____
Performance Discrepancies

Questions to ask/ Items to look for	Responses/Results

- ___ Uncorrectable entry-level limitations
- ___ Correctable entry-level limitations
- ___ Pre-entry remediation or training
- ___ Post-entry remediation or training
- ___ Possible instructional goals of remedial training
- ___ External factors

Interviewee _____

Clarifying the Problem

Questions to ask/ Items to look for	Responses/Results

- ___ Readiness for change
- ___ Best delivery media
- ___ Audience distribution re
 training needs/location
- ___ Available delivery channels
- ___ Solution sequence
- ___ External support
- ___ Time requirements

Interviewee _____

Incorporating Solutions

Questions to ask/ Items to look for	Responses/Results

Other Interview Checklist

NOTE: Not all topics will be covered with each interviewee.

TARGET AUDIENCE DESCRIPTION

- Description
- Possible language problems for training
- Social, cultural, religious, economic considerations
- Documentation of current/prior performance

IDEAL PERFORMANCE

- Ideal performance as perceived by interviewee
- Documentation of ideal performance expectations
- External factors (policies, customs, laws)
- Interviewee's expectations

CURRENT PERFORMANCE

- Current performance as perceived by interviewee
- Analyst's interpretation of interviewee's expectations

PERFORMANCE DISCREPANCIES

- Differences between current and ideal performance as seen by interviewee

CLARIFYING THE PROBLEM

- Entry-level limitations not easily correctable by training
- External factors not clearly changeable
- Identification of problem source

CURRENT SOLUTION ANALYSIS

- Prior solution experience
- Best group(s) with whom to initiate change
- Unused solutions, expertise
- Available solutions

SOLUTION RECOMMENDATIONS

- Prioritized training needs
- Available training solutions
- Attainable nontraining solutions

INCORPORATING SOLUTIONS

- Readiness for change
- Audience location
- Availability of outside support
and time required

OTHER

DATA COLLECTION SHEET

OTHER INTERVIEWS

Name _____

Position _____

Location _____

Date _____

Questions to ask/ Items to look for	Responses/Results

DATA SUMMARY

Current Performance

Information	Source	Date

Performance Discrepancies

Information	Source	Date

Target Audience Description

Information	Source	Date

Ideal Performance

Information	Source	Date

Clarifying the Problem

Information	Source	Date

Current Solution Analysis

Information	Source	Date

Solution Recommendations

Information	Source	Date

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Information	Source	Date

APPENDIX D

NEEDS ANALYSIS TERMS

NEEDS ANALYSIS TERMS

The following terms are defined in the context of training needs analysis and training product design and evaluation rather than in their broader meanings.

Analyst	An individual with training expertise engaged in data collection and interpretation
Assessment	Measurement of trainee or worker capability or achievement
Audience	See Target audience
Client	The individual or organization that requests, authorizes, and uses the results of a needs analysis
Current performance	Actual, observable behavior relating to a specific problem prior to the introduction of changes
Design	Specifications for: <ul style="list-style-type: none">o Training objectiveso Development and delivery of training materialso Assessment and evaluation processes
Discrepancy analysis	Examination of the differences between current performance and ideal performance
Entry-level skills	(1) The knowledge and ability possessed by a new worker or trainee; (2) an inventory of required knowledge and ability a new worker or trainee must have
Evaluation	Examination of performance, usually after implementation of changes; see also Formative evaluation and Summative evaluation

Expert	Someone who has special knowledge about one or more of the following:
	<ul style="list-style-type: none"> o Culture, behavior, attitudes, performance, or problems of the target audience o The tasks or job under examination and how they should be performed o Current performance and/or what problems exist o Prior solutions to the problem o When, where, and how prior solutions have been successful o Solutions currently available
Field test	See Summative evaluation
Field validation	Examination of how well the training or solution has brought about desired changes; often employs a second follow-up needs analysis
Formative evaluation	Examination of a training product's potential for success; this process takes place during rather than after product development
Ideal performance	An inventory of all required and desired worker behavior, usually included as a component of the needs analysis process; <u>current performance measured against ideal performance</u> provides the basis of the <u>problem statement</u>
Instructional task analysis	The process used by a training designer to specify, group, and sequence learning objectives and to determine general course structure

Needs analysis	The process used to determine requirements for change, usually beginning as a result of a statement of one or more problems associated with the performance of a selected group
Needs analyst	See Analyst
Observation	The process used by a needs analyst to obtain objective data about worker or trainee performance by directly monitoring work in progress
Performance task analysis	The process that defines the knowledge and skills required to carry out the set of related tasks that constitute ideal performance; undertaken initially by the needs analyst in examining ideal performance and refined by the training designer as the basis for development of training objectives
Practitioner	An individual who performs competently the job or related set of tasks under examination; usually consulted and/or observed by the needs analyst or training designer in conducting a performance task analysis
Problem statement	A concise and careful description of the circumstances surrounding the situation for which a needs analysis is required; the problem statement may undergo clarification between the beginning and the completion of the needs analysis
Sanction	(1) Authoritative approval or permission for a course of action; (2) support, as from public opinion or custom; (3) a specific penalty or moral pressure to ensure compliance or conformity

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Summative evaluation

Examination of the training product's conformance to its design and to instructional standards; this process takes place after product development, using target audience members under actual conditions; also known as field testing

Target audience

Collectively, the individuals whose performance is the focus of a needs analysis and for whom training may be designed

Task analysis

See Performance task analysis

Training objective

A training designer's statement of specific knowledge or ability required of the trainee; this knowledge or ability may exist before or as a result of training

Validity

The quality of producing desired results; used to describe the degree to which a needs analysis, training design, or other solution does what it is said to be able to do

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