Building Curriculum Development and Training Skills Training Module

version 1
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NOTE TO TRAINER

This Training Module is a combination of two previous NTI Modules: *Developing Your Curriculum* and *Building Your Skills as a Trainer*. In addition to combining the content of the two Modules, the following modifications have also been made:

- The term "curriculum development" process has been used interchangeably with the term "instructional systems development" (ISD) process.
- Two new sections describing Adult Learning Theories and the Rapid Instructional Development (RID) process have been added to the Introduction. In addition, a section entitled, "Rapid Instructional Development (RID) Tips" appears at the end of some tasks.
- Two new tasks have been added to the ISD process: "Determine Facilitation Techniques" and "Design Trainer's Toolkit."
- The completed curriculum example, Administering Medication Safely, showing how NTI developed a training based on the Instructional Systems Development (ISD) model, has been removed for updating and revision.

The Appendixes contain numerous tools and templates. They are available as a separate downloadable file on the NTI Resources Website.

This Training Module presents curriculum development processes and training techniques that can be used to teach many different content areas. Additional learning activities can be found in the *Building Curriculum and Training Skills* Trainer's Toolkit that has been developed to accompany this module. The Toolkit includes a Trainer's Guide to leading training sessions, PowerPoint slides, and materials for participants' packets.

For more information about using the NTI materials, please read "Guidelines for Using the NTI Curriculum Materials," available in the "Curriculum" section of the NTI Resources Website (accessed by entering your NTI username and password at http://blackboard.unc.edu.)

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LEARNING OBJECTIVES

Building Curriculum Development Skills

After completing the Training Module, Trainers will be able to:

- Describe four attributes of a positive adult learning experience
- List the four steps and corresponding tasks in the Instructional Systems Development (ISD) process and describe the reasons for using them
- Explain the relationship between the ISD process and the Rapid Instructional Development (RID) process

Building Training Skills

After completing the Training Module, Trainers will be able to:

- Use the ISD process and templates to develop a training program
- Deliver the developed training session to CCHCs and/or other related audiences.
- Evaluate the training session they delivered
- Based on evaluation data, revise the training session as needed

INTRODUCTION

The purpose of this module is to walk you through the various steps involved in creating your own curricula and training. In this module, the four steps in the Instructional Systems Development (ISD) process—Assess, Plan, Implement and Evaluate—are described along with numerous practical tools and templates for you to download and use.

CARING FOR OUR CHILDREN NATIONAL STANDARDS (3RD ED., 2011)

Caring for Our Children: National Health and Safety Performance Standards: Guidelines for Early Care and Education Programs (*CFOC*) is a set of 686 attainable standards that are intended for use by health care professionals, trainers, regulators, caregivers/teachers, academics and researchers, parents/guardians, and others "who work toward the goal of ensuring that all children from day one have the opportunity to grow and develop appropriately, to thrive in healthy and safe environments, and to develop healthy and safe behaviors that will last a lifetime" (*CFOC* 3rd ed., 2011, p. xxi). These standards, supported by the Maternal and Child Health Bureau, were developed by the American Academy of Pediatrics, the American Public Health Association, and the National Resource Center for Health and Safety in Child Care and Early Education.

A major responsibility of child care health consultants (CCHCs) is to integrate health and safety education into child care. To accomplish this integration, CCHCs must be knowledgeable about curriculum development and training for children, parents/guardians, and child care staff. See NTI's Training Module, *Building Consultation Skills*, for a further discussion on health and safety education in child care and a list and description of related *CFOC* standards.

Additionally, throughout *CFOC*, the need for training is mentioned in relation to the varied and many health and safety issues in child care (e.g., advocacy, child maltreatment, CPR, emergency procedures, food service, medication administration, nutrition, oral health, handwashing, pediatric first aid, standard precautions, transportation, etc.).

The following is a list of the standards relating to curriculum development and training in the child care environment, along with a short description and the page number in *CFOC* on which the standard can be found. All listed standards are referenced throughout this Module.

1.6.0.1-- Child Care Health Consultants, p. 33
Delineates the knowledge and specific activities of CCHCs. Four of these varied activities are related to curriculum development and training. Specifically, CCHCs should have the ability to perform or arrange for the following to be performed:

- Teaching child care providers about health and safety issues
- Teaching parents and guardians about health and safety issues
- Assessing caregivers'/teachers' needs for health and safety training
- Assessing parents' and guardians' needs for health and safety training

10.3.4.3-- Support for Consultants to Provide Technical Assistance to Facilities, p. 403
States that state agencies should encourage the arrangement and coordination of and the fiscal support for consultants from the local community to provide technical assistance to child care and early education programs. The standard lists various areas in which the consultants should have training and experience. One of these key areas is "adult learning techniques".

WHAT THE CCHC SHOULD KNOW: ADULT LEARNING THEORIES

As a trainer, it is important for you to have a basic understanding of adult learning theories since they are the foundation for the ISD process. The description below provides a summary of some of the key points.

Early learning theories were based on how children and adolescents learned and these theories were derived from animal studies. In the early part of the 20th century, psychologists were the leaders in researching learning behavior. Then in the 1960s, adult education professionals started to develop their own perspectives (Merriam in Knowles, 2005).

Malcolm Knowles is known as one of the early pioneers in adult education. In the early 1970's, Knowles introduced the idea that adults learn differently from children and adolescents. Knowles was instrumental in trying to study the adult education movement in the US; develop guidelines for adult education; and try to create a comprehensive adult education theory, known as andragogy (Smith, 2002). This theory, which transformed the study of adult learning, included five main assumptions (Weinstein, 2002):

- **Self-concept of the learner:** adults have a deep psychological need to be self-directing.
- **Role of experience:** adults bring with them a rich background of experiences that is a valuable resource for either their own learning or that of other trainees.
- **Readiness to learn:** adults learn more effectively when they see that the information is relevant to their lives. It assumes that the facilitators need to help adults see how the training or courses can help them perform more effectively in their jobs.
- **Orientation to learning:** adults enter into educational or training activities to acquire prescribed subject matter. Educational activities need to help adults in the process of acquiring content in organized units, sequenced according to logic of the subject matter.
- **Motivation to learn:** as an adult matures, his/her motivation to learn becomes internalized and is less dependent on external factors.

In practice,

> …andragogy means that instruction for adults needs to focus more on the process and less on the content being taught. For example, instructional strategies such as case studies, role-playing, simulations, and self-evaluation are most useful. Instructors adopt a role of facilitator or resource rather than lecturer or grader. (Kearsley, 2006a)

Although this Training Module does not include a comprehensive review of adult learning theory, three other learning theories are worth mentioning: Carl Rogers' (1974) humanist theory, Howard Gardner's (1983) multiple intelligences theory, and David Kolb's (1984) experiential learning theory.

Carl Rogers divided learning into two domains: cognitive and experiential. Cognitive learning is gaining academic knowledge (e.g., memorizing a list of words), while experiential learning is how the knowledge is applied. To Rogers, experiential learning is equivalent to personal change and growth. Rogers feels that all human beings have a natural propensity to learn and the role of the teacher is to facilitate such learning. The basic principles of Rogers' theory include:

- Significant learning takes place when the subject matter is relevant to the personal interests of the student.
- Learning which is threatening to the self (e.g., new attitudes or perspectives) is more easily assimilated when external threats are at a minimum.
- Learning proceeds faster when the threat to the self is low.
- Self-initiated learning is the most lasting and pervasive.

In his 1983 book, *Frames of Mind*, Howard Gardner described the theory of "multiple intelligences" as a unique way to view intelligence and stated that intelligence is more than IQ-type formalized test results. His theory of "multiple intelligences" originally included the following seven intelligences:

- Linguistic intelligence
- Logical–mathematical intelligence
- Musical intelligence
- Bodily–kinesthetic intelligence
- Spatial intelligence
- Interpersonal intelligence
- Intrapersonal intelligence

The first two are types of intelligence that have typically been valued in schools; the next three are usually associated with the arts, and the final two are what Gardner called "personal intelligences". Since this original list of seven intelligences was published, Gardner and colleagues have considered three other possible intelligences: a naturalist intelligence, a spiritual intelligence, and an existential intelligence. There is more consensus on including the first of these three intelligences than the other two. In general, academic psychologists and educators view Gardner's theory differently. The former are more reluctant to accept its validity, while the latter have more fully embraced it (Smith, 2002).

David Kolb's 1984 book, *Experiential Learning: Experience as the Source of Learning and Development*, described learning as a cycle which includes four processes that must be addressed for learning to take place (Clark, 1999):

- Active experimentation (e.g., simulations, case studies, homework)
- Reflective observation (e.g., logs, journals, brainstorming)
- Abstract conceptualization (e.g., lectures, papers, analogies, case studies)
- Concrete experience (e.g., laboratories, field work, observation)

Kolb's theory has the best experimental support for improved learning outcomes when a student's learning style is matched with the appropriate teaching methods.

The above theories are from the field of education, although adult learning continues to be studied from an interdisciplinary perspective. Based on the above selected theories, the following are presented as the more salient principles or characteristics of a positive adult learning experience:

Characteristics of an Adult Learning Experience

- Places the learner at the center of the educational process

- Uses facilitation rather than only lecturing to foster learner participation
- Recognizes the learners' different learning styles
- Shows respect for and among individuals—not just for what they know but for themselves
- Supports learners as ultimately responsible for their own learning
- Provides a comfortable atmosphere
- Directly relates what is being learned to learners' experiences and current needs
- Offers supportive opportunities for trainees to try new behaviors and skills

WHAT THE CCHC SHOULD KNOW: INSTRUCTIONAL SYSTEMS DEVELOPMENT (ISD) PROCESS

The ISD process described in this Training Module is the starting point you would use to (1) develop a curriculum for a training program, or (2) adapt materials from other sources to meet your training needs. Also known as course design, instructional design, and curriculum development, the ISD process is a systematic approach to creating an effective training and materials.

The ISD process is designed to take you through a step-by-step approach to developing a curriculum for a training program. The process is systematic with each step building on information gathered and materials produced in the previous steps.

Use of the ISD process will result in increased achievement and decreased time required for training. This is because the ISD process aids in identifying the essential knowledge and skills that trainees need to do their jobs effectively. This is especially important in times of limited resources when organizations are under pressure to develop employees who can perform adequately on their jobs.

Although the ISD process may seem time-consuming and somewhat intimidating, you will find that you are already performing many of these tasks when you prepare a training program or develop new training materials. As use of the process becomes automatic, you will be able to produce higher quality training programs with greater efficiency.

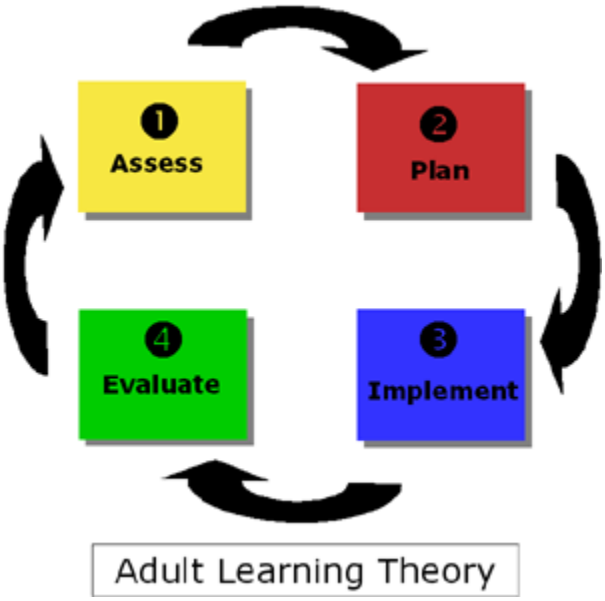
Steps in the Instructional Systems Development (ISD) Process

There are four major steps in the Instructional Systems Development (ISD) process, with adult learning theory serving as the foundation:

1. Assess
2. Plan
3. Implement
4. Evaluate

As you will note from Figure 1, the ISD process is cyclical in that each step in the process builds on the step(s) that preceded it, so it is important to perform the steps in order. However, there is a certain amount of back and forth among the steps because new information or insights gained in subsequent steps will cause you to rethink decisions made in earlier steps. The information gathered and materials produced during each step are then used to complete subsequent steps.

Figure 1: Steps in the Instructional Systems Development (ISD) Process



An overview to the ISD process proposed in this Training Module is provided in Table 1, on the following page. Each step in the process requires completion of a number of tasks. Various tools and templates are provided to aid you in completing these tasks. Once you complete the tasks required for each step, you will have created various products. These products will then be used to make decisions about subsequent steps. The specific process for completing each step comprises the major content for this Training Module.

Table 1: Overview of the Instructional Systems Development (ISD) Process

❶ **Assess**		
Tasks	**Tools and templates**	**Products**
Conduct needs assessment	▪ Needs Assessment Log ▪ Needs Assessment Summary	Needs assessment summary
Conduct task analysis	▪ Task Analysis Questions ▪ Task Inventory	Task inventory
❷ **Plan**		
Tasks	**Tools and templates**	**Products**
Write training goals	Goals and Objectives	List of training goals
Write training objectives	Verbs for Use in Stating Training Objectives	List of training objectives
Develop evaluation strategy	Evaluation of Trainer Form	Pre/post-test and evaluation items
Conduct audience analysis	Audience Analysis	Description of audience
Determine training techniques (see Appendixes A-D)	▪ *Training Techniques-Methods* (Appendix C) ▪ *Training Techniques-Media and Materials* (Appendix D)	▪ List of potential resources, audiovisuals and materials ▪ Training activities ▪ Training materials (e.g., slides, worksheets, handouts, etc.) ▪ Field test/review results
Determine facilitation techniques	Role of the Facilitator	Wall charts
Develop trainer's toolkit	▪ Preparation Checklist ▪ Overview of Training Session ▪ Trainer's Outline	Trainer's Toolkit
Make training site arrangements	*Training Checklists* (Appendix B)	Reservation of facility and equipment
❸ **Implement**		
Tasks	**Tools and templates**	**Products**
Conduct training	▪ Training Implementation and Logistics Checklist ▪ Supplies and Equipment Checklist	Pre/post-test and evaluation responses
❹ **Evaluate**		
Tasks	**Tools and templates**	**Products**
Compile and review evaluation	▪ Evaluation of Trainer Form ▪ Evaluation Summary	Evaluation summary

WHAT THE CCHC SHOULD KNOW: RAPID INSTRUCTIONAL DEVELOPMENT (RID) PROCESS

For over thirty years, the instructional systems development (ISD) model described in this Training Module, and variations of it, have stood the test of time as the field standard. Recently, an alternative approach has been suggested—rapid instructional development (RID). The literature also refers to this approach as rapid instructional design. Thiagarajan (2000, p. 55) defines RID as:

> …a collection of strategies for quickly producing instructional packages that enable a specific group of learners to achieve a set of specific instructional objectives. RID involves alternatives, enhancements, and modifications to the instructional systems development (ISD) model....

It is beneficial to understand and master the complexities of the ISD format for two basic reasons. First, more than likely there are times when you need to develop new training materials. For example, there may be topics important in your state/territory that are not included in NTI's curriculum; very little training materials have been developed on a topic; and/or the topic is technically involved. In these situations, it is beneficial to follow the ISD model. Second, it is useful for you to have a thorough understanding of the ISD process so you are better able to teach CCHCs an abbreviated form of it—RID—since CCHCs may not need to understand ISD at the depth it is presented in this Training Module.

To assist you in training CCHCs about curriculum development, NTI has developed a Trainer's Toolkit which is based on RID.

There are several other general reasons why you could use RID instead of ISD. Sutton (2003) lists three motivating reasons to use RID: schedule, objectives of the stakeholder(s), and the role of the consultant in development. Concerning schedules, most everyone is familiar with having tight timeframes in which to create and deliver trainings. You also are probably familiar with the difficulty of not having the "stakeholders" readily accessible (due to geographic, time, and other factors) to help develop training. And, finally, as a trainer, you want to show your clients you are responsive to their needs in a timely manner. Sutton (2003, p. 1) offers the following practical description of practicing RID "…a process where we were assessing training needs, defining content (both instruction and knowledge) and designing the access, navigation and the overall look and feel simultaneously."

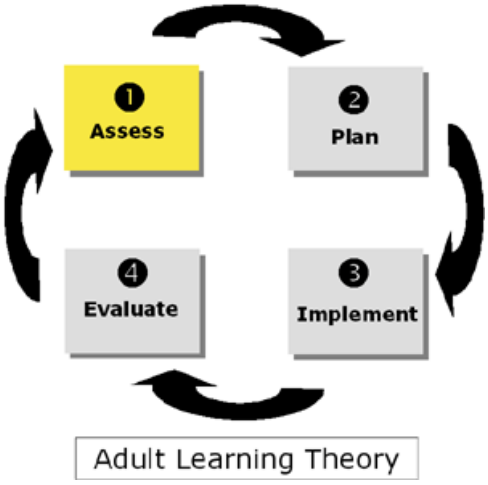
Keep in mind that ISD is best viewed as a flexible model. With this view of ISD, trainers can use shortcut techniques during different steps of the process, combine different steps, proceed rapidly to implementation, and skip some of the steps. (Thiagarajan, 2000, p.58).

Summary

Andragogy, or the study of how adults learn, has provided specific guidance for trainers in terms of what constitutes effective training and instruction for trainees. Basically, the focus is on the process as well as, if not more than, the content being taught. The role of the trainer is that of facilitator rather than lecturer or expert.

The ISD process is designed to take you through a step-by-step approach to developing a curriculum for a training program. The process is systematic with each step building on information gathered and materials produced in the previous steps. Use of the ISD process will speed and enhance learning, cut training time and cost, and reduce the time it takes you to develop training.

ISD should be seen as a dynamic and flexible model. By understanding ISD, you should be able to train CCHCs to use the more practical RID process and advise them on additional shortcuts to ISD. The emphasis of all training, no matter whether the ISD or RID process is used, is to increase trainees' job performance. In child care, this translates to creating and delivering training which increases the health and safety of children in child care and raises the quality of these facilities.



STEP 1: ASSESS

During the first step of the ISD process you will gather information to determine if training is needed and, if so, what trainees must do to perform their jobs successfully.

❶ Assess		
Tasks	**Tools and templates**	**Products**
Conduct needs assessment	▪ Needs Assessment Log ▪ Needs Assessment Summary	Needs assessment summary
Conduct task analysis	▪ Task Analysis Questions ▪ Task Inventory	Task inventory

Conduct Needs Assessment

The first step in the ISD process depends upon your completing a needs assessment. A needs assessment is a process of identifying and collecting information about employees, clients or consumers, jobs, services, resources, and the environment, of a program, organization, community, or population.

A needs assessment can be broad in scope, such as a community assessment that looks at different ethnic groups within a community and the unique or common needs of these groups. A needs assessment can also be much narrower in scope and focus on a very specifically defined population, such as care coordination for prenatal patients in a migrant health center. A needs assessment can be a very complicated process done by several experts, but it can also be much simpler and within the scope of trainers, supervisors, and administrators of programs or organizations.

A needs assessment is usually undertaken because there is a perceived problem or set of problems. During the needs assessment, data are collected to verify if these problems exist, and if so, why. It is also possible that "new" or previously unrecognized problems may be uncovered as a result of this process.

These problems are described as gaps or discrepancies between the actual state of affairs and the desired or ideal state of affairs. Suppose that an organization has as one of its goals that 100% of the employees hired to evaluate playground safety will be able to do this according to current regulations and accepted standards, but uncovers the fact through a needs assessment that only 60% of its employees are able to do this. In this case, the desired or ideal state of affairs is 100% and the actual state of affairs is 60%. Depending on other findings from the needs assessment, this gap or discrepancy in the employees' performance could be labeled a "need". A need is defined as the difference between what is (actual) and what ought to be (desired). A potential training need exists when there is a discrepancy between what employees should know or be able to do and what employees do know or can do (Figure 2) (Hannum and Hansen, 1993).

Figure 2: The Gap between Ideal State of Affairs and Actual State of Affairs

Ideal or desired state of affairs (What ought to be)
— Actual state of affairs (What is)
= Training need(s)

(Adapted from Hannum and Hansen, 1993)

Guidelines for Conducting a Needs Assessment

1. **Perform a 'gap' analysis.** In this step you will check the actual performance of the organization(s) and the employees against existing or new standards. Has the error rate risen? Has production slowed down? Is the organization receiving more complaints from customers? Has the injury rate risen? Is the organization losing money? As part of performing the gap analysis, you must determine what is the current situation or state of

knowledge, skills and abilities of current and future employees and what is the desired or necessary situation.

There are various techniques for collecting information about the 'gap' in performance. You will want to talk to employees, supervisors, agency administrators, and representatives from the community. You may also want to talk to employees performing the same job and their supervisors at other agencies who are not part of your needs assessment to see if they are experiencing similar problems. You can gather this information through conversations, interviews, focus groups, direct observations, surveys, tests, and reviews of work samples, written records, and employee documentation (Table 2). Use the *Needs Assessment Log* (Appendix A) to record information you collect from various respondents.

The information you collect about any gap will help you identify the needs, purposes and ultimately training objectives for your training. After completing this step, you may have a long list of possible training needs.

2. **Identify priorities and their importance.** Using the list of generated training needs, you must now prioritize the needs in light of their importance to the organization and in terms of their cost-effectiveness, whether they are required by law, the number of people involved, customer satisfaction, etc. This step is undertaken because training is expensive, and it is not possible, nor desirable, to provide training on all of the needs you have identified. Thus, if some needs rank relatively low in terms of importance, it would make more sense to devote your energy to addressing needs with greater importance and impact.

3. **Identify causes of performance problems and/or opportunities.** After prioritizing the needs, you are now ready to identify specific problem areas and opportunities in your organization. For every identified need, you should ask two questions:
    a. Are employees doing their jobs effectively?
    b. Do employees know how to do their jobs?

4. **Identify possible solution and growth opportunities.** If employees are doing their jobs effectively, you may want to leave well enough alone. If they are not, training may be the solution if there is a lack of knowledge or skills. In other situations, problems with employees' performance may be due to a lack of motivation or incentives. In this case, training will not help. In situations like these, changes in the organization's reward system and/or policies and procedures may need to be made for employees' performance to improve.

5. **Use the *Needs Assessment Summary* (Appendix A) to document information from the needs assessment.** You will refer to this information throughout the ISD process.

(Adapted from Rouda and Kusy, 1995)

The above actions represent a comprehensive approach to conducting a needs assessment. Given time and funding constraints, however, a comprehensive needs assessment may not

always be possible. Please refer to the RID Tips at the end of this section for a streamlined approach.

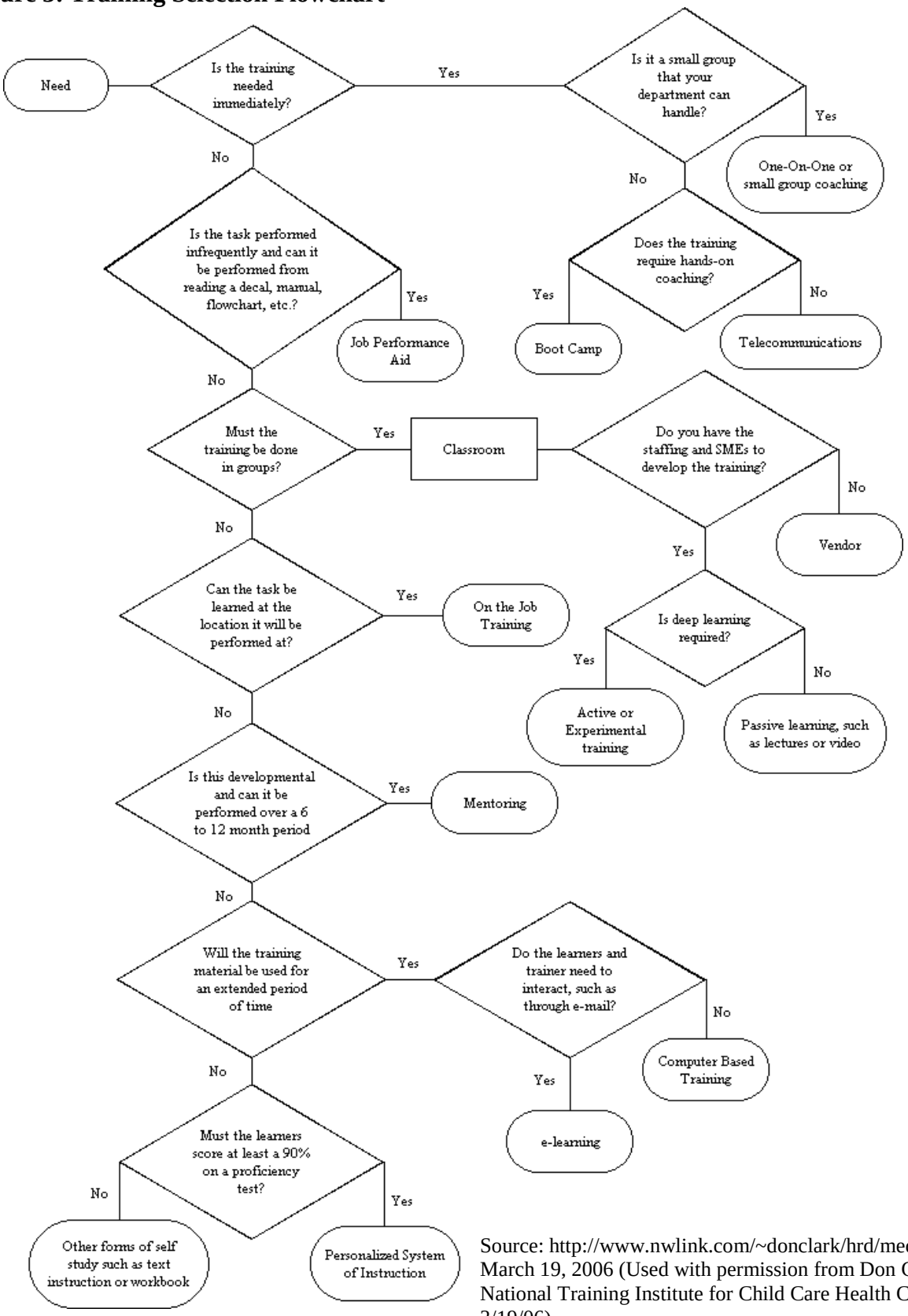
Table 2: Techniques for Collecting Data about Perceived Problems

Questions	Sources	Methods
▪ Are employees making errors, and if so how many and what are the types of errors? ▪ Have there been any recent changes in equipment, policies and procedures, employee turnover rates, working conditions, new initiatives, regulations, or legislation? ▪ Are there any motivational or incentive problems such as explicit or hidden rewards or punishments for performing the job in a certain way, i.e., either correctly or incorrectly? ▪ Are supervisors providing adequate instructions to employees? ▪ Are supervisors providing adequate feedback on how employees are performing?	▪ Administrators ▪ Supervisors ▪ Employees ▪ Clients or consumers ▪ Employees of other agencies ▪ Supervisors of employees of other agencies	▪ Brainstorming sessions ▪ Casual conversations ▪ Direct observations ▪ Focus groups ▪ Formal interviews ▪ Surveys ▪ Tests ▪ Work sample review ▪ Written records review

(Adapted from Hannum and Hansen, 1993)

As previously mentioned, not all employee performance problems are due to a lack of knowledge or skills. Training may not be the answer. The Training Selection Flowchart (Figure 3) shows a decision process you can follow to determine possible options for addressing a documented need. A more detailed discussion of training techniques is located in Step 2: Plan.

Figure 3: Training Selection Flowchart



Source: http://www.nwlink.com/~donclark/hrd/media.gif March 19, 2006 (Used with permission from Don Clark for the National Training Institute for Child Care Health Consultants, 3/19/06)

Rapid Instructional Development (RID) Tips

- If you are unable to devote much time and energy to the needs assessment process, try to do as many of the recommended steps as possible but reduce the number of sources from which you collect information.
- Use existing records and documents instead of conducting extensive interviews.
- If interviews are needed, conduct limited ones with subject matter experts and those in the field who are considered "mentors".
- Use the web and email to gather information from subject matter experts, employers and prospective trainees. For example, consider using a listserv to contact many people at once or posting draft documents on a website for review.
- Examine the client's current training structure and determine what can be kept and/or modified to meet the current training needs.
- Consider skipping the Assess step if the client requesting the training has adequately described and documented the need for training.

Summary

The needs assessment is your guide for determining if training is needed. It consists of gathering information from a variety of sources about a perceived problem or gap between what is and what ought to be. Based on the results of the needs assessment, you will have a better idea of what the gaps (problems) are, if, in fact, there are any. Once you understand the problem(s) you are in a better position to determine the appropriate solution(s). There may be many solutions to the problem(s) you uncover in the needs assessment. The problem(s) may be due to a lack of knowledge or skills. In this case, developing a training program or providing a job aid may be what is needed. If the problem is due to organizational or environmental obstacles, the obstacles or barriers may need to be removed or redesigned and policies or operating procedures changed. If the problem is related to employees' motivation and/or attitudes, the answer may be to provide incentives or feedback. When done correctly, a needs assessment can save your organization from wasting time and money on inappropriate training programs.

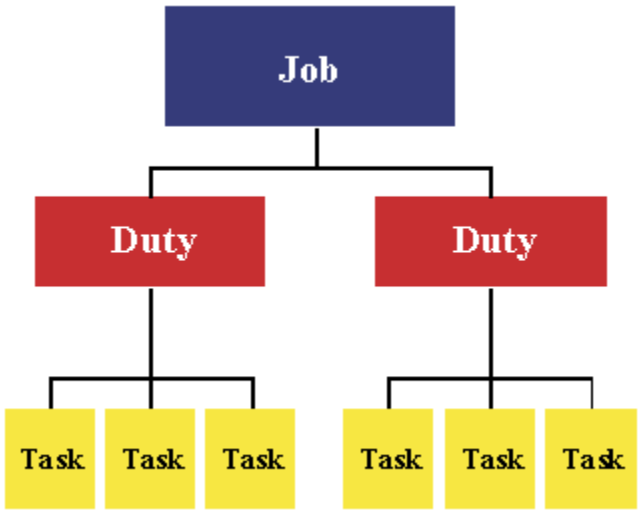
It is important to review your needs assessment prior to every new training program if you will be conducting a training for the same target population. If possible, you should try to update your information prior to subsequent training programs.

Conduct Task Analysis

A task analysis is conducted after you have completed the needs assessment. The task analysis is conducted at this point because the findings from the needs assessment will help you focus on which jobs you need to analyze, i.e., those identified as having performance problems, ranked as important, and those due to a lack of knowledge and/or skill. You will also have important information about the environment in which these jobs are performed.

A task analysis is a technique for breaking a job into its components—duties, or responsibilities, and tasks (Figure 4)—and then analyzing the components to determine the knowledge, skills, and attitudes an employee would need to be able to do, know, or have to perform the job successfully (Hannum and Hansen, 1993). Knowledge, skills, and attitudes refer to the three types of learning as categorized by Benjamin Bloom in 1956 (summarized in Kearsley, 2006b). The 'Knowledge' domain is also referred to as 'cognitive' and covers mental skills. The 'Psychomotor' domain is often referred to as simply 'skills' and covers manual and physical skills that usually involve mental skills as well. The 'Affective' domain is often referred to as 'attitudes' and involves personal and interpersonal skills.

Figure 4: Breakdown of Job into Duties and Tasks



(From Hannum and Hansen, 1993)

If a training program is to be effective, it must be related to what trainees are expected to do "on the job". The task analysis provides the direct link between the training and the job by identifying what is required to perform the job successfully. Because of this direct link, the task analysis will help you determine the content, methods, media, activities, and materials for a training. For example, the tasks and steps identified through the task analysis will aid in sequencing, organizing and presenting the training. In addition, any checklist or flowchart you make during the task analysis to visually represent the steps involved in completing a task may be a useful learning tool for trainees. For example, a flowchart could be used by trainees as a job aid to remind them of the order of certain steps or tasks. Furthermore, a checklist of the steps needed to perform a job could be used by trainers to evaluate trainees' performance of those skills.

It is important to do a task analysis even though you may be very familiar with the job being analyzed. The reason for this is you may unconsciously leave out significant steps that need to be done or decisions that need to be made while performing the job. This is because they have become second nature or automatic to you. If it is a job you are somewhat familiar with, you may uncover steps you were previously unaware of or steps you need to learn more before developing the training (Hannum and Hansen, 1993).

Guidelines for Conducting a Task Analysis

Write a brief description of the duties and tasks, including the knowledge, skills, and attitudes needed for the job(s) on the *Task Inventory* (Appendix A). The descriptions should include details about what an employee does and how she/he does it when performing a task, such as the steps, processes, or procedures that are followed and decisions that are made. Finally, note any equipment or materials that an employee needs to complete the job. There are several ways to do this:

- Observe several skilled employees as they perform the job and record the specific duties and tasks they complete. It is also possible to videotape employees as they perform the job. Based on observations from the employees' actual performance or the videotape, you can analyze the job and create a list of steps the employees took to perform the job. Although one advantage of videotaping is that it allows repeat viewing of the job performance so you can be more certain about what tasks were performed, a disadvantage is that the act of videotaping may cause employees to change the way they do their jobs.
- Interview supervisors and a small sample of skilled employees. Ask them what they do when performing a certain job.
- Survey employees and ask them to list the tasks they perform on the job. If time permits, you may also want to talk to former employees.
- Review documentation from job descriptions and policies and procedures manuals.
- Each option for finding out what employees do "on the job" has its advantages and disadvantages. If possible, collect information using several of these methods.

(Hannum and Hansen, 1993)

Once you have listed and described the duties and tasks that make up a job, you will need more information to help you determine if training is needed for these tasks. Use the *Task Analysis Questions* (Appendix A) to document trainees' knowledge and skill levels, experience, special needs, and preferences. This information will prove useful to you in deciding the tasks to include in the training.

As noted during the needs assessment, training is expensive, and it is impossible to train employees on every possible task (Hannum, 1989). The following are criteria to consider when selecting the tasks on which you will provide training:

- **Number of persons who perform the task:** is this task performed by many different employees or does the job experience high turnover? If so, you will probably want to develop a training and appropriate job aids on these tasks.

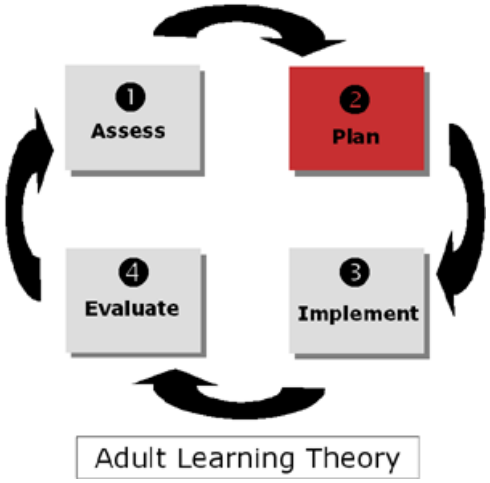
- **Job rarely performed:** is this a complex task, performed so rarely that employees don't remember it easily? If so, consider developing a job aid or learning guide to refresh an employee's memory.
- **Critical to success:** would performing the task correctly make a significant difference in efficiency, or would incorrectly performing the task have serious consequences? If so, you will probably want to provide training on these tasks.
- **Difficult to master:** is this a difficult task to learn? If so, you will probably want to provide training on this task, and you may want to create a job aid or learning guide that details the steps, processes or procedures to be performed when completing the task.
- **Requires consistency or uniformity:** does the task require every employee to receive the same instructions and perform the task exactly the same way? If so, you will probably want to provide training on this task.

Rapid Instructional Development (RID) Tips

- To analyze steps involved in a task, review the facility's or organization's policies and procedures manual.
- Ask employees to describe exceptions to the facility's or organization's written policies and procedures.
- Begin the process by using subject matter experts as much as possible. With permission, videotape their presentations and then conduct a task analysis about what was covered.
- Use the web and email to gather information from subject matter experts, employers and prospective trainees. For example, consider using a listserv to contact many people at once or posting draft documents on a website for review.

Summary

A task analysis is a technique used to identify the relevant knowledge, skills, and attitudes that employees must have to be successful in performing a job. Jobs that will be analyzed using this technique are ones that were identified through the needs assessment as having performance problems that were due to a lack of knowledge or skill. The first step in a task analysis is to break a job into its various parts, i.e., duties and tasks, and then analyze these parts to determine what knowledge is necessary, what skills are involved, and what attitudes are desirable so employees can successfully perform the job. The second step is to describe the tasks that make up a job. Because it is impossible to provide training on every task, you will need to collect information about the tasks to determine the number of employees who perform the task, the frequency with which they perform the task, how critical the task is to successful job performance, how difficult the task is to learn, how much time is spent performing the task, etc. Information about the knowledge, skills and attitudes needed to perform the job will then be used to determine the content and techniques for the training program.



STEP 2: PLAN

The majority of the work in developing a training program is completed during the second step of the ISD process. In this step, training goals and objectives are written, content is researched and outlined, the audience analysis is completed, and evaluation and test items are written. Decisions about the training techniques are made, audiovisuals are previewed and selected, slides or overhead transparencies are produced, and activities such as case scenarios and discussion questions are developed. Careful planning is required to carry out quality training.

❷ **Plan**		
Tasks	**Tools and templates**	**Products**
Write training goals	Goals and Objectives	List of training goals
Write training objectives	Verbs for Use in Stating Training Objectives	List of training objectives
Develop evaluation strategy	Evaluation of Trainer Form	Pre/post-test and evaluation items
Conduct audience analysis	Audience Analysis	Description of audience
Determine training techniques (see Appendixes A-D)	▪ *Training Techniques-Methods* (Appendix C) ▪ *Training Techniques-Media and Materials* (Appendix D)	▪ List of potential resources, audiovisuals and materials ▪ Training activities ▪ Training materials (e.g., slides, worksheets, handouts, etc.) ▪ Field test/review results
Determine facilitation techniques	Role of the Facilitator	Wall charts
Develop trainer's toolkit	▪ Preparation Checklist ▪ Overview of Training Session ▪ Trainer's Outline	Trainer's Toolkit
Make training site arrangements	*Training Checklists* (Appendix B)	Reservation of facility and equipment

Write Training Goals

Before writing training goals for your curriculum, you will have conducted a needs assessment and a task analysis.

Goals are seen as solutions to problems or gaps that were identified in the needs assessment. For example, if based on the needs assessment, you have identified and prioritized an employee performance problem as a training need, i.e., one that is due to a lack of knowledge or skill, then that need will become the basis for a training goal. However, there may be other goals, unrelated to a lack of knowledge and skills, that an organization will strive to achieve based on findings from its needs assessment. These types of goals are often referred to as program goals because they focus on needs that cannot be addressed with training (Hannum and Hansen, 1993). Refer back to Figure 3: Training Selection Flowchart.

Training Goals vs. Training Objectives

Although the words "goal" and "objective" are sometimes used interchangeably, a training goal is not the same as a training objective. Training goals are broad, general statements about what behavior or performance a trainee will exhibit or demonstrate after successfully completing a training program. Training objectives, on the other hand, are clear, precise statements describing exactly what the trainee will be able to do after the training. In short, training objectives differ from training goals in terms of their specificity. Training objectives specify the conditions and criteria under which a trainee is expected to demonstrate the desired behavior or performance. Training goals describe the major desired outcomes of the training program while training objectives, if attained, lead the trainee to achieving the training goal (Hannum and Hansen, 1993). Training goals describe trainee's desired performance or behavior in measurable and observable terms, but conditions or criteria are not specified.

Role of Training Goals

Even though their level of specificity is different, both training goals and objectives play an essential role in the ISD process—that of helping the trainer to design the training as well as helping the trainee to understand what is expected of him or her after completing the training program. When written correctly, both training goals and objectives also aid the trainer and trainee in evaluating whether or not the training program was successful. If after completing a training, trainees are able to do what the goals and objectives call for, then the training program can be considered a success.

Guidelines for Writing Training Goals

1. Review the performance problem(s) due to lack of knowledge, skills, and/or attitudes identified and prioritized through the needs assessment.

2. Write a goal statement describing the desired behavior(s) or performance(s) you want the trainee to exhibit after completing the training program. Use verbs in your goal statement that are measurable and observable. Avoid using vague words such as "know", "appreciate" or "understand". See the *Goals and Objectives* in Appendix A to help you write training goals.

(Hannum and Hansen, 1993).

Summary

Training goals are based on needs identified through the needs assessment that are due to a lack of knowledge, skill, or attitude. Training goals are broad, general statements that describe the desired outcomes of a training program. Training goals are similar to training objectives in that they both describe the trainee's desired performance or behavior. However, training goals differ from training objectives in that they do not specify the conditions and criteria under which a trainee will demonstrate the desired behavior or performance. Training goals are important to the ISD process because they help both the trainer to develop and evaluate the training and the trainee, after completing the training, to know when she/he has achieved the training goal.

Write Training Objectives

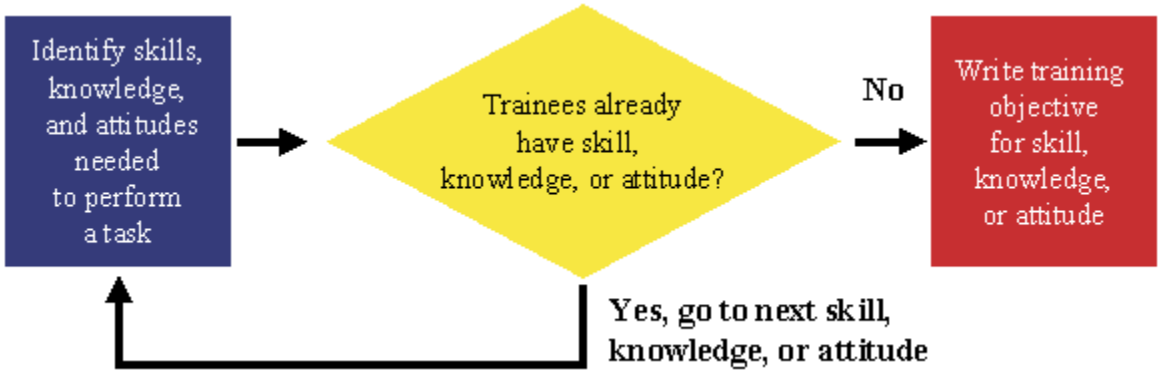
Before writing training objectives for your curriculum, you will have conducted a needs assessment, completed a task analysis, and written training goals.

Training objectives, also referred to as learning objectives or simply objectives, are clear, precise statements describing the desired behavior or performance a trainee will have attained after completing a training program. Although training objectives are written in terms of what the trainee will be able to do after training, they are presented to trainees before the training so they can see what will be expected of them and focus their time, attention, and energy on what is most important for them to learn.

Training objectives are not phrased in terms of what you as the trainer will do or teach during the training. However, the term teaching objective is sometimes used to describe what the trainer or teacher plans to do during the training or instruction.

Training objectives are derived from the task analysis and the training goals and may address knowledge, skill or attitude areas. Through the task analysis you learned the tasks that need to be performed in a particular job and identified the knowledge, skills, and attitudes needed to perform the job successfully. If trainees do not have the necessary knowledge, skills or attitudes, or need to improve them, you would then write a training objective for that knowledge, skill or attitude (Figure 5). Thus, if a trainee attains the training objective(s), she/he will achieve the training goal.

Figure 5: Process of Writing Training Objectives



The process of writing training objectives requires you to think systematically about what it is you want trainees to be able to do at the end of your training. Training objectives serve as a check on the relevance and ensure inclusion of the essential content in the right sequence. Use of training objectives provides a clear blueprint or road map of what you will teach in a training and can help you prevent gaps or duplication across different training programs. Furthermore, training objectives help you select and develop appropriate training techniques. Finally, training objectives provide the basis for you to evaluate both the trainee's performance and the effectiveness of the training program (Hannum and Hansen, 1993).

Learning Domains and Levels of Training Objectives

Bloom categorized objectives into three domains: cognitive, affective, and psychomotor, depending on the type of learning outcome desired (summarized in Kearsley, 2006b). Within the cognitive domain, there are six additional levels (Table 3).

Table 3: Learning Domains

Learning Domain	Description
Affective	Modification of trainees' attitudes, values or emotions
Cognitive	Acquisition of knowledge and development of intellectual skills
▪ Knowledge	Trainees can recognize or recall ideas and concepts
▪ Comprehension	Trainees can paraphrase or synthesize information in their own words
▪ Application	Trainees can generalize and apply learning to novel situations
▪ Analysis	Trainees can distinguish between facts and inferences and can categorize material or concepts into component parts so that its organizational structure may be understood
▪ Synthesis	Trainees can assemble pieces into cohesive, functional units
▪ Evaluation	Trainees can assess or make judgments about the value or importance of ideas, concepts, solutions, etc.
Psychomotor	Development of physical, muscular abilities

When you write training objectives for the lower-level skills, you will most likely use verbs from the categories of Knowledge and Comprehension. When writing training objectives for higher-level skills, you will use verbs from the categories of Application, Analysis, Synthesis, and Evaluation. When developing your curriculum, it is important to include a mix of lower-level and higher-level objectives. There will always be a need to cover lower-level objectives because these refer to the important information or knowledge needed to master higher-level objectives. But the higher-level objectives are the ones that are usually most important and necessary. The most difficult objectives to attain are affective training objectives that try to change trainees' attitudes or persuade them to adopt new habits or behaviors.

Writing Effective Training Objectives

Training objectives follow a predictable pattern or formula. Effectively written training objectives include four major components:

- A description of the behavior or skill that is stated in measurable and observable terms and refers to what the trainee will be able to do after completing the training.
- A description of the circumstances or conditions under which the trainee will perform the desired behavior. For example, will trainees be allowed to use a dictionary or computer? Will they be given a scenario to analyze? Will they use a checklist or other type of form?
- A description of the criteria that will be used to evaluate the trainee's performance on the objective.
- A period of time or a deadline by which the trainee will accomplish the objective.

Thus, the formula for a training objective is to answer the following questions:

- Who? (e.g., the trainee, learner, student or participant)
- Does what? (e.g., a measurable and observable behavior)
- Under what circumstances or conditions? (e.g., the equipment, resources, or assistance, etc. needed or provided). Examples: when given a scenario or case scenario, from memory, using no notes or other resources, using a checklist or job aid, using a calculator, etc.
- How well? (e.g., the quantity and quality criteria) Examples: With 90% accuracy, 4 out of 5, response must include, etc.
- By when? (the time criterion)

Following the formula, one possible training objective for a training program on playground safety could be: given a case scenario and using a playground safety checklist, the trainee will be able to evaluate the safety of a playground with 90% accuracy by the end of the training (Table 4).

Table 4: Example Training Objective Using the Formula

Who?	Does what?	Under what circumstances or conditions?	How well (criteria)?	By when?
The trainee (CCHCs)	will be able to evaluate the safety of a playground	given a case scenario (text with photos or a video) and using a playground safety checklist	by identifying 90% of the hazards	by the end of the training

Although this is the recommended formula for writing training objectives, it should be noted that as a trainer you will not usually communicate the training objectives to trainees with this level of detail. In the above example, you would probably not list the circumstances, conditions or how well a trainee is expected to perform when informing the trainee of what she/he will do in the upcoming training program. Instead, you would probably just list the training objective as "Evaluate the safety of a playground." You may be thinking, "Why go through the work of specifying the circumstances, conditions and how well a trainee is expected to perform in the training objectives if that information isn't provided to trainees?" The reason for this is because the training objectives are not meant just for the trainee; they are meant to help you in developing the training.

As noted earlier, training objectives can be used for multiple reasons: as a check on the relevance and inclusion of the essential content in the right sequence; as a clear blueprint or road map of what will be taught in a training to help prevent gaps or duplication across different training programs; as an aid in selecting the training techniques and developing the training activities for a training program; and as the basis for evaluating both the trainee's performance and the effectiveness of the training program (Hannum and Hansen, 1993). The act of writing the training objectives and specifying the criteria, conditions, and how well a trainee should perform will help the trainer think through all of these important considerations. An excellent template to use when you are writing objectives is "A Quick Guide to Writing Learning Objectives". Please see "Where To Find More Information" for a link to this template.

Verbs for Use in Stating Training Objectives

You will recall that when you write training goals that it is important to avoid using vague verbs such as "know", "understand", and "appreciate" to describe the desired behavior or performance. It is equally important to select a precise verb when you write your training objectives. Avoid using vague or ambiguous words, such as:

- Know
- Understand
- Appreciate
- Learn
- Knowledge of/knowledgeable
- Be familiar with
- Have a sense of
- Be aware of

This is because it is impossible to observe a trainee "knowing" or "understanding" something. Furthermore, these words have many meanings. What does it mean to "know" or "understand" something? Does the word "understand" mean to explain something to someone else? Or does it mean to demonstrate how to do something? How many test items would a trainee need to answer correctly for you to be sure he/she knows or understands something? Using these types of vague verbs leaves trainees unsure about what it is they should be able to do. Instead, it is best to be concrete and clear in describing the desired behavior. If you use verbs that are clear, trainees can understand what it is they have to do and will know when they have achieved the training objective (Hannum and Hansen, 1993).

In the example above, a training objective should be written that requires the trainee to demonstrate the skill of evaluating the safety of a playground. However, a common mistake is to see this:

> **Poorly-Written Training Objective:**
> The trainee will understand how to evaluate the safety of a playground.

In this example, the verb "understand" only requires, after completing the training, that the trainee be knowledgeable about the process. The way this training objective is written does not require the trainee to prove competence or demonstrate that he/she is able to perform the skill.

> **Well-Written Training Objective:**
> Given a case scenario and using a playground safety checklist, the trainee will be able to identify 90% of the hazards on a playground by the end of the training.

Guidelines for Writing Training Objectives:

1. Review the skills, knowledge and attitudes identified through the task analysis.

2. Review the training objectives. Ask yourself:
    a. What do I want trainees to be able to do after completing this training?

b. Could I observe a trainee doing this behavior or exhibiting this performance?
c. What would a trainee be doing when she/he demonstrates mastery of the skill, knowledge or attitude?
d. Have I identified the most important behaviors?

3. Write a statement that includes a description of the behavior or performance, the circumstances or conditions under which the behavior will be performed, and the criteria for evaluating the trainee's performance. Make sure you select an action verb that is measurable and observable in a specific period of time when you describe the trainee's behavior or performance. Refer to *Verbs for Use in Stating Training Objectives* (Appendix A) as needed. Review the training objectives to verify you have incorporated the necessary components and covered the most important knowledge, skills, and attitudes.

Rapid Instructional Development (RID) Tips

> Develop test questions that can also be used in place of training objectives. (See RID Tips for the next task: "Develop Evaluation Strategy".)

Summary

Training objectives are extremely important to the ISD process. Training objectives assist you, as the trainer, to determine the essential content, i.e., what is most important to teach. Training objectives also help you select appropriate training techniques and materials. Training objectives help to focus the trainees' attention, time and energy on what is most important to be learned. Training objectives define the methods to be used in evaluating trainees' performance and the course design process. Well-written training objectives include an observable action verb; specific, measurable criteria to evaluate the trainee; and conditions or circumstances under which the trainee will be evaluated.

Develop Evaluation Strategy

Once you have written the training objectives, you are ready to develop the evaluation strategy for your training program. The evaluation strategy is developed at this point in the ISD process although the actual evaluation of the training is conducted during Step 3: Implement.

Developing an evaluation strategy for your training program refers to how you will measure trainees' progress and how you and the trainees will know whether or not they have successfully achieved the desired training goals and objectives.

The evaluation strategy also refers to how trainees will evaluate you and the effectiveness of the training. This information can then be used to revise the training.

Four Levels of Evaluation

Kirkpatrick (1994) described four levels of evaluation for training programs. These levels are summarized in Table 5 on the following page.

Table 5: Four Levels of Evaluation

Level	Description
Level 1: Reaction (see Appendix A: *Evaluation of Trainer Form*)	▪ What it is: "Smile" sheet ▪ Why it is used: To subjectively measure how trainees felt about the training program (customer satisfaction). ▪ How it is administered: Usually administered as a one-page questionnaire at the end of a training program. The questionnaire usually contains Yes/No options or a Likert-type scale of agreement (Strongly Agree, Agree, Neither Agree nor Disagree, Disagree, Strongly Disagree). ▪ Typical questions addressed: o Did the training meet the stated training objectives? o What did you like best (and least) about the training? o Was the trainer helpful? o Were your questions answered? o Were the training materials useful? o Was the room comfortable? o What changes would you suggest making to improve the training? Note: All training programs should include a Level 1 evaluation.
Level 2: Learning	▪ What it is: Learning assessment (pre- and post-tests) ▪ Why it is used: To determine objectively how much trainees increased their knowledge, improved or acquired skills, and/or changed attitudes as a result of the training. ▪ How it is administered: Usually administered as a paper-and-pencil test at the beginning and end of a training session or program or just at the end. May be administered in other ways that more accurately assess the improvement or acquisition of skills. Requires prior planning and preparation on behalf of trainer. ▪ Typical questions addressed: o Did the participant learn anything? o What knowledge was acquired? o What skills were developed or enhanced? o What attitudes were changed? Note: All training programs should include a Level 2 evaluation.

Level 3: Behavior/Transfer	▪ What it is: Behavior or transfer evaluation ▪ Why it is used: To determine how much trainees' behavior changed and how much learning transferred when back "on the job". ▪ How it is administered: Usually administered through focus groups, interviews, or surveys with trainees and supervisors approximately 1-9 months after training program, with most occurring at 3-6 months post-training. ▪ Typical questions addressed: o How are the skills and knowledge from the training being used? o Has there been a transfer of knowledge from the trainee to others in the work environment? o How much of what trainees were taught in the training are they using back "on the job"? o How much of what trainees are using "on the job" was taught in the training, rather than learned from peers or mentors? o Are trainees using the knowledge and skills learned in the training correctly or as intended? o Have there been any unexpected outcomes of the training?
Level 4: Results/Impact	▪ What it is: Results or impact evaluation ▪ Why it is used: To determine what results occurred or what impact the training has had on the organization(s) where trainees work (e.g., quantity, quality, safety, sales, costs, profits, etc.) for strategic planning or return on investment (ROI) research. ▪ How it is administered: Usually administered through focus groups, interviews, or surveys with trainees, co-workers, supervisors, managers, customers, etc. Conducted very rarely because it is costly and time consuming. ▪ Typical questions addressed: What has been the end result or impact of training (e.g., have injuries been reduced, has public relations improved, are fewer errors occurring, has more efficiency been reported, or other measure of success identified)?

When you develop your evaluation strategy, it is important to keep in mind two evaluation principles proposed by Kirkpatrick:

- Evaluation methods and forms can be borrowed from other organizations and used or adapted to your situation. (Note: please check for any copyrights.)
- Evaluation results cannot be borrowed even if the program is the same.

Selecting an Evaluation Method

As recommended in Table 5, all training programs should include at least a Level 1 and a Level 2 evaluation. To conduct a Level 1 evaluation, most trainers develop a "Smile" sheet.

For a Level 2 evaluation, trainers usually develop and administer a "test" or learning assessment. As used here, the term "test" includes paper-and-pencil tests, such as pre-tests and post-tests, but there are other ways to evaluate a trainee's performance. Other possible evaluation methods include: an oral exam to determine proficiency in a foreign language, a return demonstration requiring the trainee to demonstrate the skill being tested, an individual or group project resulting in a report or product, or a computer-based simulation that presents a trainee with realistic scenarios or problems. The most common types of tests are described in Table 6.

Table 6: Types of Evaluation Methods

Tests	Description	Uses
Pre-test (Appendix A: *Sample Pre-test)*	▪ A short but comprehensive test administered before training has been started ▪ May contain same questions as post-test or may be a different or longer version of the post-test ▪ May consist of multiple choice, true/false, matching, and essay questions	▪ Used to determine the knowledge and skills (related to an upcoming training) that trainees already have before beginning a training program ▪ Used when there may be substantial differences in the knowledge and skill levels of trainees ▪ Used by trainer to customize training according to trainees' needs ▪ Used to determine if trainees with high scores can avoid unnecessary training and trainees with low scores can receive additional review, training, or time
Post-test	▪ A short but comprehensive test administered after training has been completed ▪ May contain same questions as pre-test or may be a different or shorter version of the pre-test ▪ May consist of multiple choice, true/false, matching, and essay questions	▪ Used to determine the knowledge and skills trainees have attained after completing a training program ▪ Used to certify satisfactory completion of a training program

Learning Guide / Checklist (Appendix C: *Skills Demonstra-tion Assessment*)	▪ A step-by-step checklist focusing on the key steps or tasks involved in performing an activity or skill	▪ Used to evaluate a trainee's performance and by trainees to evaluate each others' performances ▪ Used to measure a wide variety of skills in realistic situations ▪ Used to ensure that all trainees will be evaluated according to the same standard

Guidelines for Developing an Evaluation Strategy

1. **Develop a test based directly on the training objectives.** The reason to do this is because the training objectives focus on the knowledge, skills, and attitudes most important for trainees to learn in your training. It follows, then, that trainees should be tested on whether or not they acquired the same knowledge, skills, and attitudes. When you wrote your training objectives, the criteria and conditions under which the knowledge, skills, and attitudes will be recalled or performed were included. These criteria and conditions provide guidance about how to evaluate or test the performance called for in the training objective. The criteria also give you a measure of whether or not trainees successfully attained the training objectives. For example, if one of the training objectives in your training program is "the trainee will be able to evaluate the safety of a playground with 90% accuracy by the end of the training", you know trainees will need to score at least 90% to successfully achieve that training objective.

2. **Provide trainees with several opportunities to practice the new skills they are learning before they are tested on them.** This can be accomplished by incorporating training activities into your training program. When developing training activities, try to design them as close as possible to the conditions under which the trainees will be tested or will need to perform the skill "on the job". For example, if trainees will need to use certain tools to perform a certain skill on the test, require them to use the same tools in the training activity. If one of the skills being tested is that trainees learn to work as a team, structure a training activity that requires them to function as a team. Then, after trainees complete the training activities, you can provide them with feedback about their performance so they will know if what they are doing is correct or needs improvement. It is helpful to provide trainees with the evaluation instrument (e.g., checklist or learning guide) while they are practicing so they are aware of how they will be evaluated while they still have time to make corrections in their performance. (See Appendix C: *Skills Demonstration Assessment.*)

Rapid Instructional Development (RID) Tips

> ISD encourages the development of training objectives, which are then used to develop evaluation instruments. To streamline this process, develop evaluation test items first and then use them as the basis for your training objectives.

Summary

One of the most frustrating parts about being a trainer is determining how much of what you taught was actually learned by the trainees. Do trainees understand the content? Do they remember the content? Are trainees using the new knowledge, skills, and attitudes "on the job"? Answering these questions is what evaluation is all about. Over the years, a standard methodology has been developed for creating training evaluations, often referred to as the "Four Evaluation Levels." The four evaluation levels include:

1. Reaction
2. Learning
3. Behavior/Transfer
4. Results/Impact

All training programs should include at least a Level 1 and Level 2 evaluation. A Level 1 evaluation is often referred to as a "Smile" sheet. This type of evaluation can provide you with information about your effectiveness as a trainer and about the training overall. A Level 2 evaluation, usually administered as a pre-test/post-test or post-test only, can be used to assess trainees' level of knowledge, skills or attitudes. When you determine the type of test to administer to trainees and the content of the test, it is important that the test is able to assess the knowledge and skills being taught in the training. The conditions and criteria specified in the training objectives provide guidance as to how to evaluate trainees' performance. For this reason, test items should closely match the training objectives and in many cases, the training objectives resemble actual test questions. If resources allow, consider using Level 3 and Level 4 evaluation methods.

By looking at evaluation results, you can then measure the effectiveness of the training and use this information to revise the training program as needed.

Conduct Audience Analysis

Before conducting an audience analysis for your training, you will have conducted a needs assessment and a task analysis and written training goals, training objectives, and evaluation or test items. Although most of the actual planning for a training program will be covered in the upcoming steps of the ISD process, it is during the audience analysis that you will collect important information for use in planning the training program and in determining the content, selecting the training techniques, and selecting or developing the training activities and materials.

An audience analysis is a technique for collecting information about the training's target audience and using this information to develop a training program.

It is important to find out as much as you can about the target audience for your training program because training techniques that reflect the values, beliefs, attitudes, and experiences of the target audience will have a much greater impact than those that do not. Information about the target audience will be useful to you in determining the vocabulary, examples, and illustrations to be used in the training materials. Furthermore, information about trainees' job experience and responsibilities, skill levels, and learning style preferences will help you to determine the content and the most appropriate training techniques to use in the training program.

General Characteristics

An audience analysis involves collecting information about the target audience's general characteristics such as:

- Age
- Culture/Ethnicity
- Educational level
- Gender
- Geographic location (rural vs. urban)
- Job experience, including current job title, description and responsibilities
- Reading level
- Socio-economic background

Any of the general characteristics can influence the types of materials selected or developed. For example, age considerations may mean choosing materials with illustrations or suggestions appropriate and relevant for parents or guardians. Taking into account the ethnicity or culture of your target audience may mean choosing materials that contain illustrations depicting appropriate dress and other customs and that reflect specific health beliefs. Location considerations may mean choosing materials that illustrate lifestyles of a rural community rather than an urban setting. For example, training materials designed for Latino, rural people should reflect Latino, rural culture, show culturally appropriate examples, and be written in a language and style suitable to that particular group.

In addition to the general characteristics listed above, you will also collect information about the number of potential trainees, their expectations for the training, and their preferences regarding the location of the training facility and date for the training. You will want to document this information to refer to and to inform decisions you will make later in the ISD

process. Table 7 contains some important questions to ask about the target audience and describes the rationale for doing so.

Table 7: Collecting Information about Your Audience

Questions	Rationale
How much of the content in a training program do trainees already know?	If trainees already know some or all of the content to be covered in a training program, you will obviously not need to teach it. Pre-testing is a good way to determine how much trainees already know about the subject prior to the actual training.
Do all trainees have the same understanding of key concepts?	If trainees do not have the same understanding of key concepts, you may need to undo some prior learning or undesired habits.
Are all trainees at the same level of understanding or skill development?	If some trainees lack the necessary prerequisite skills for successful participation in your training program, you may need to provide them with remedial instruction, a brief review or assign them to a different training program altogether. If trainees have varying levels of understanding and skills and none of these options are possible, you may need to think of some ways to avoid confusing novices while not boring experts. Pre-testing is a good way to determine if trainees have the necessary prerequisite skills for success in your training program and will help you determine at what level to begin the training.
What prior experience of trainees been relevant to your topic? What types of experiences have trainees had in terms of schooling and work?	The relevant experience of trainees has a tremendous impact on training. Positive past experiences can add depth and value to training while negative experiences can make your job more difficult.
Will trainees be using the skills and knowledge from the training in the same way and for the same purposes?	How trainees will use the skills and knowledge should guide you in selecting examples and exercises. A homogenous group requires a less diverse set of examples.

What are the highest priorities for trainees? What level of motivation and readiness do trainees bring to the training?	To take advantage of trainees' motivation and use their training time to the greatest advantage, make sure you are focused on making the training relevant to their needs.
Do trainees have any special needs such as another language, health considerations, scheduling conflicts, etc.? Do they have preferences regarding the training location and date?	You will need to take trainees' needs into account as you design the training and be flexible in your approach.
Can some training be completed outside of the classroom? Can some training be completed by trainees on their own? How do trainees prefer to learn?	Much of what is called "training" is information and does not require group interaction. However, certain skill building activities (e.g., physical, thinking, or personal/interpersonal skills) may require classroom training and interaction with other trainees.

Learning Style Preferences

Information about trainees' learning style preferences, such as a preference for print-oriented, aural (auditory), or visual learning, may influence the types of training techniques you choose to deliver the training program.

Learning styles "attempt to explain learning variation between individuals in the way they approach learning tasks" (Toye, 1989, pp. 226-227). Although a great deal of research has been conducted on learning styles, there is at present no clear consensus regarding which elements to include in an inventory of styles (Merriam and Caffarella, 1999). For example, Barsch (2000) proposes three learning styles, while Cherry (1999) proposes seven. Nevertheless, learning style inventories may prove useful in helping people become aware of their personal strengths and weaknesses as learners and trainers (Merriam and Caffarella, 1999). Kolb (1984) proposes that people are most comfortable with and extract the most information from training techniques that correspond to their preferred learning style(s). Similarly, Reese (1998) recommends that learners will form richer associations to learned material and thereby remember information more easily if instruction is geared to address a variety of learning styles. Table 8, on the following page, describes the inventory of learning styles proposed by The Institute for Learning Styles Research (Cherry, 1999).

Table 8: Cherry's Seven Perceptual Styles

Perceptual Style	Characteristics
Print-Oriented Learner	▪ Often takes notes ▪ Remembers quickly and easily what is read ▪ Learns better after seeing or writing something ▪ Grasps important concepts on first reading of material
Aural (Auditory) Learner	▪ Tends to remember and repeat ideas that are verbally presented ▪ Learns well through lectures ▪ Is an excellent listener ▪ Can learn concepts by listening to tapes
Visual Learner	▪ Learns by seeing or watching demonstrations ▪ Likes visual stimuli such as pictures, slides, graphs, demonstrations, etc. ▪ Needs something to watch ▪ Becomes impatient and drifts away when extensive listening is required
Haptic (Tactile) Learner	▪ Involves the sense of touch in learning ▪ Likes to piece things together ▪ Is successful with tasks requiring manipulation
Interactive Learner	▪ Learns best through verbalization ▪ Likes to use other people as a sounding board ▪ Finds small group discussions stimulating and informative ▪ Prefers to discuss things with others
Kinesthetic Learner	▪ Learns by doing – direct involvement ▪ Tries things out ▪ Likes to manipulate objects ▪ Learns better when able to move during learning
Olfactory Learner	▪ Learns best through the sense of smell and taste ▪ Associates a particular smell with a particular past memory ▪ Finds that smells add to learning

(Adapted from Cherry, 1999)

Guidelines for Conducting an Audience Analysis

1. **Review information about the target audience that you collected during the needs assessment and task analysis**.

2. **Collect general and specific information about the target audience.** Obtain information about the general characteristics of the target audience for your training program. Also consider asking members of the target audience the questions listed in Table 7. This information can be collected by reviewing enrollment questionnaires or registration forms from this or a previous training; by conducting short surveys or interviews via email, phone or mail with a sample from your target audience; by informal conversations and observations; or by pre-testing a sample from your target

audience. Ideally, you will want to collect information using several of these methods; however, this will increase the expense of your audience analysis in terms of time and money.

3. **Compile and record the information you have collected to the *Audience Analysis* (Appendix A).** This includes information from the needs assessment, task analysis, enrollment questionnaires, registration forms, surveys and pre-tests, and includes the number of potential trainees, and trainees' expectations and preferences regarding the training location and date.

Rapid Instructional Development (RID) Tips

> Use email and the web to gather information about your audience and their training needs. For example, consider using a listserv to email a short questionnaire to a group of potential trainees or using a web-based software program such as SurveyMonkey™ or Zoomerang™ to expedite the creation and production of online surveys or questionnaires.

Summary

Once you have collected information about your target audience, such as age range, gender, educational level, job responsibilities, and learning style preferences you will have information that will be useful to you in deciding on the training techniques and the vocabulary, examples, and illustrations to use when developing training materials. You will also have important information to help you determine the content you will teach in your proposed training program because you will have a better idea of trainees' job experiences and skill levels.

Determine Training Techniques

At this point in the ISD process, you have already determined what and who you are going to teach by completing the needs assessment and task analysis, identifying the training goals and objectives, preparing the evaluation and test items, and completing the audience analysis. You are now ready to determine how best to teach the content of your training program which means considering various training techniques.

The term "training techniques" is used interchangeably with "instructional strategies", "teaching methods", "training methods", and "training activities", and may include training media and materials. For purposes of this Module, "training techniques" will include descriptions and guidelines for how to select, develop and/or use the following:

- Methods
- Media
- Activities
- Materials

Training Methods

There are a variety of methods to consider when you develop a training program. A training program usually is composed of several different types of methods. Some of the major categories of methods (although not exhaustive) are described below and are listed from "low" to "high" trainee involvement.

Table 9: Various Types of Training Methods

Method	Description	Uses	Trainee Involvement
Lecture (Appendix C)	▪ Trainees listen to trainer as she/he presents information. ▪ Can be improved by presenting training objectives and incorporating an introduction, questions, handouts and/or graphics, and a summary.	▪ Presenting general, introductory information (especially in preparation for another activity such as a discussion or demonstration)	Low

Demonstration	▪ Trainees observe trainer (or other trainees) perform a skill while explaining how, when, why and where it should be done (or an animation illustrating a process). ▪ Can be enhanced by providing trainees with checklists or learning guides (detailing step-by-step procedures) to use when observing a demonstration.	▪ Teaching procedures, manipulative operations, and motor skills ▪ Illustrating principles and processes that require movement or motion	Low (can be enhanced)
Discussion	▪ Trainer presents trainees with a question, topic or problem/case scenario to comment on or discuss with trainer and other trainees. ▪ Can be enhanced by asking higher-level questions, i.e., requiring trainees to apply knowledge to unique and novel situations. An optimal size group is around 5-7 trainees.	▪ Teaching analysis and synthesis skills ▪ Checking and increasing understanding ▪ Helping trainees to recognize the value of collaboration and open deliberation with colleagues ▪ Encouraging trainees to learn from one another	Medium
Group project	▪ Trainees are separated into small groups to complete an assigned paper, project or task. ▪ Can be enhanced by providing trainees with clear and specific guidelines on how the paper or project will be evaluated.	▪ Developing collaboration and problem-solving skills ▪ Increasing understanding of content ▪ Developing presentation skills	Medium

Independent study	▪ Trainees (individually) complete reading and homework assignments, papers, projects or journals. ▪ Can be improved by requiring trainees to complete "authentic" tasks, i.e., real-world tasks they would complete on-the-job.	▪ Orienting trainees to a new topic ▪ Providing a review of material presented in lecture ▪ Preparing for participation in a discussion ▪ Providing practice in applying new knowledge and skills	High
Simulation (e.g., case scenario, skills demonstration or role play, in-basket, and games) (Appendix C: *Case Scenario*)	▪ Trainees demonstrate a skill in a simulation of the real situation (using models and real objects) and receive feedback on their performance.	▪ Teaching manipulative operations and procedural skills ▪ Developing interpersonal skills (by applying newly acquired skills in a practical or safe setting, e.g. role playing a counseling session)	High

Media Used in Training

The term "media", when used in the context of ISD, refers to the various ways in which the content and methods in a training program can be delivered. Media supplement the training methods and are therefore selected after a decision has been made about the method. This is due to the fact that a variety of media can be used effectively to deliver the selected method(s) (Hannum and Hansen, 1993). The most common types of media are listed in Table 10 on the following page.

Table 10: Types of Media

Media	Description	Possible Uses
Print Materials (Appendix D)	▪ handouts ▪ reference materials ▪ textbooks	▪ Preparing trainees for subsequent training activities ▪ Providing background information, and providing research related to topic
Graphics	▪ slides ▪ charts, diagrams ▪ graphs, illustrations ▪ drawings, photographs	▪ Organizing information for recall and enhancing retention ▪ Creating interest
Audio	▪ short audio clip ▪ narrated slide show ▪ audio tape	▪ Reinforcing what is seen in text or in graphics
Video (Appendix D)	▪ short video clip ▪ entire videotape	▪ Teaching interpersonal skills ▪ Demonstrating time, motion, social interaction ▪ Providing examples that most closely approximate reality
Computer-based and web-based training / multimedia	▪ self-paced computer programs ▪ CD-ROMs	▪ Providing opportunities to practice (with increasing difficulty) or "think through" more than one solution to a problem

Guidelines for Selecting and Using Training Methods and Media

1. **Review the training objectives.** The selection of methods and media should be based primarily on the session's training objectives. The behavior expected of trainees, as stated in the training objectives, will provide you with clues about the best methods and media to use. For example, if one of the training objectives is "trainees will be able to evaluate the safety of a playground…", you will want to use a method that requires them to practice doing that before sending them out into the field or back on the job. If the skills to be taught are more analytical, you will need to provide opportunities for discussion and problem solving, which might involve discussion or simulation (e.g., case scenario) methods (Hannum and Hansen, 1993).

2. **Review the audience analysis you developed for information about the prospective trainees.** You will recall that training techniques reflecting the values, beliefs, attitudes, and experiences of trainees are more effective than those that do not. This is why it is important to review information from the audience analysis when you are selecting training techniques. In addition, information from the audience analysis about trainees' learning style preferences will guide you as to the most effective combinations of training techniques to use. Still another reason to review information from the audience analysis is to recall what you found out about trainees' experience or their knowledge of the content. Finally, information collected in the audience analysis about trainees' educational experiences will help you to determine their possible openness and

willingness to participate in training methods such as case studies and skills demonstrations versus more traditional methods (Hannum and Hansen, 1993).

3. **Make an initial determination of the method(s) and then the media.** When you select the methods, it is important to use methods with differing levels of trainee involvement (see Table 9), especially consider using those methods that offer a high degree of trainee involvement. This is because trainees generally learn more when they are more actively involved with the trainer, other trainees, and the training materials. This is sometimes referred to as "interactivity" and is usually accomplished by selecting the appropriate methods and/or media. Another consideration when you select methods and media is the importance of keeping trainees interested and motivated.

4. **Research the topic and identify potential resources and materials.** NTI's research-based Training Modules, the associated references, and the "Where To Find More Information" sections are a good place to start. You can add supplemental information to these materials to fit your circumstances. Also, many reputable government websites such as the Centers for Disease Control and Prevention (CDC), National Institutes of Health (NIH), and Maternal and Child Health Bureau (MCHB) provide well-designed training materials or patient education materials on various health and safety issues that can be used as-is or adapted for training. A useful tool for evaluating existing print materials is *Print Materials: Tips for Preparing and Using* (Appendix D).

5. **Evaluate the selected training techniques in terms of constraints.** After making an initial determination, the ideal training techniques should then be evaluated in terms of constraints such as cost, availability, and time. Are there existing materials and media available at an affordable cost and can they be obtained in time? Will the existing materials and media need modifications or need to be supplemented in some way? Is there time available to do the necessary modifications or supplementation? If no materials or media exist, are too expensive, or won't arrive in time, do you have the money, time, or capability of producing the desired materials and media? If the ideal method and media are not currently available, and development time and funding are limited, it may be best to use what is available, as long as it is equally or nearly as effective as the ideal. Keep in mind that what is new and more technologically advanced is not always better in terms of helping trainees learn than simpler or more traditional training techniques (Hannum and Hansen, 1993). A tool to help in brainstorming possible options is the Training Selection Flowchart (Figure 3) introduced in Step 1.

Training Activities

In addition to methods and media, there also are training activities. Many times the term "training activities" is used interchangeably with "training methods" or "educational games". Some trainers hesitate to use training activities because they think of them as games and do not see the educational use for them. Using educational games/activities in training, however, is a well-established and accepted practice. Some reasons to use training activities are to address trainees' various learning styles, engage trainees in the training so it is not a passive event, review materials, increase retention, and relate the training to on-the-job demands. Please see "Where To Find More Information" at the end of this Training Module for

examples of resources where you can find examples of training activities. NTI also has developed a Trainer's Toolkit which accompanies this Training Module. Additional NTI Training Modules will have companion Trainer's Toolkits. The Toolkits include examples of a wide variety of training activities for you to use.

Guidelines for Selecting and Using Training Activities

1. **Relate training activities to objectives.** The more trainees are aware of what they need to learn, the more effective and efficient the learning. At the start of the training session, state the training objectives clearly so trainees can focus on what is most important in the upcoming training. Before beginning a training activity, inform trainees of the training objective which pertains to the activity.

2. **Use multiple types of activities.** Repetition is necessary for trainees to become competent or proficient in a skill. Provide multiple opportunities/activities in the training program for trainees to practice and demonstrate the new knowledge and skills.

3. **Create realistic training activities.** The more realistic the training activity, the more effective the learning. Newly acquired knowledge and skills transfer to practice best when the context in which they are learned closely resembles the context of actual practice. The closer to reality, the better.

4. **Relate training activities to job responsibilities.** Training activities should directly relate to the job responsibilities of trainees. Trainees may be more highly motivated and more committed to learning new knowledge and skills if they see how the training is relevant to their jobs. This can be accomplished through the use of real case scenarios and problems, or "authentic tasks" (e.g., consult with an agency to develop a program plan and present it to the agency or develop a survey on behalf of an organization) (Sullivan, 1995).

5. **Write instructions for training activities.** This is particularly helpful if the activity has multiple steps or parts. Writing instructions is important to the activity's success. The process of writing clear instructions will help you to think through each part of the activity with the trainees in mind. It also results in realistic timing of each activity. Instructions can be presented verbally but should also be presented in writing, using paper (on the activity handout), the flipchart, a writing board, overhead projector or slide so that trainees can refer to them during the activity. Written instructions provide clarity for everyone; without them, confusion and frustration can result. Instructions for each activity should include: an estimate of the amount of time trainees should spend on the activity; a statement about how the activity is to be completed, e.g., individually, in pairs, or as a small group, and any additional handouts, resources, or props, etc. that can be referred to or used; a statement of what the product of the activity should be, e.g., a written paragraph, a verbal report back to the larger group, etc. (if applicable); and any specific criteria that will be used to evaluate the trainee's performance (if applicable)

Training Materials

As part of determining the training techniques to be used in your training program, you will also select or develop draft training materials. Training materials refer to the overheads, slides, handouts, worksheets, job aids, etc. you will need to conduct the training.

Selecting or developing training materials is usually the first place trainers start when they begin developing a new training program. This is premature, however, for two reasons. First, you need to know your target audience. Second, by completing the other steps in the ISD process, you will receive important information you can use to develop effective training materials.

Guidelines for Selecting or Developing Training Materials

1. Refer to the *Audience Analysis* (Appendix A) you completed earlier for information about your audience.

2. Review the training objectives.

3. Research and review existing training materials. Obtain copyright permission as required.

4. Develop draft training materials (e.g., overheads, slides, handouts, etc.). For more information, see *Training Techniques-Methods* (Appendix C) and *Training Techniques-Media and Materials* (Appendix D).

5. Use analytic methods to assess existing training materials or materials you develop. Below are three methods to consider: a checklist, readability formulas, and the Suitability Assessment of Materials (SAM). Before using any training materials, one of these methods should be used:
    a. Checklist. Use a checklist such as the *Print Materials: Tips for Preparing and Using Checklist* (Appendix D).
    b. Readability Formulas. Check the readability level of the training materials. According to Doak, Doak, and Root (1996, p.44), "There are numerous paper and pencil tools as well as computer-generated formulas. Readability formulas can be applied to prose—that is, running text—but not to tables, charts, or words lists. At least 40 formulas are based on just two factors: word difficulty and sentence length." When you use one of these formulas you will learn the grade-level rating for your training materials. Some of the well-known readability scales are Flesch-Kincaid Grade Level Index and The SMOG Readability Formula. Both the Flesch Reading Ease and the Flesch-Kincaid Grade Level Index are accessible in most word processing programs (e.g., look under Tools/Options/Show readability statistics).
    c. Suitability Assessment of Materials (SAM) (Doak, Doak, and Root, 1996, pp. 49-60). SAM was originally developed for print material and illustrations but can be used with video-and audiotaped instructions. SAM uses 22 factors to examine the material's suitability re: content, literacy demand, graphics, layout, learning stimulation/motivation, and the intended audience's culture. Based on these

factors, SAM produces a numerical score (in percent) and the results are in three categories: superior, adequate, or not suitable. The assessment also is able to pinpoint the specific deficient areas. It takes approximately 30-45 minutes to administer SAM. See the Doak, Doak, and Root reference at the end of this Training Module for the website to access a description of SAM and instructions on how to use it.

6. Field test your training materials. This would be done in lieu of, or in addition to the above three assessment methods. The purpose of field testing, also called formative evaluation or pre-testing, is to provide you with information about the effectiveness of your training materials. Field testing is conducted at this point so you can make revisions to the training materials before a lot of time and money have been invested. Field testing is conducted on a one-on-one basis with several trainees from the target audience. These trainees should be as close as possible to the target audience, in terms of demographics, educational level, and job responsibilities. Basically, field testing involves providing trainees with the draft materials and then observing and interviewing them about their reactions to the material, any errors or omissions they found or confusion they had about the material, and appropriateness of examples, vocabulary and illustrations.

7. Develop and produce final versions of any training materials. Once you have the assessment and field testing information, you can revise the materials accordingly.

Rapid Instructional Development (RID) Tips

- Develop a very streamlined training that focuses only on critical "need to know" information. Then improve and expand the materials throughout each implementation based on feedback from trainees.
- Incorporate existing training materials and adapt them as needed for the intended audience. There is a vast amount of "off-the shelf" training materials, which already exists. Be sure to search reputable government websites (e.g., Centers for Disease Control and Prevention, National Institutes of Health) for training materials or patient education materials on health and safety issues. It is usually easier and faster to adapt these materials or create a training session around them than to start from scratch.
- Consider changing the role of "subject matter experts" from trainers to coaches.
- Incorporate peer coaching and/or organize self-managed learning teams in place of holding extensive classroom trainings.
- Make a videotape of a subject matter expert demonstrating the task. This bypasses many steps (e.g., writing a script, preparing a storyboard, etc.).
- Make modifications for the next training. Eventually replace the subject matter experts with training materials.
- Instead of developing training materials, develop job aids (e.g., checklists, flowcharts, etc.) and build the training around these.
- Develop standard templates for activities, worksheets, handouts, etc. so you do not need to create a new look or way of organizing things.
- To save time, design the layout and graphic look of the training materials at the same time content material is collected.
- Include "noninstructional" materials such as articles, movies, and videos to address the training content. This cuts down on development time.
- Use software programs to expedite the creation and production of material: for example, consider using desktop publishing software for rapid layout, graphic packages for handouts, and PowerPoint for overheads and slides.
- Use the web and email to gather information and receive reviews from subject matter experts. For example, consider using a listserv to contact many people at once, or posting draft documents on a website for review.
- Instead of asking individual experts to review materials, use a focus group. Give the group the materials and conduct a structured discussion with them. This bypasses the steps of waiting for reviewers to give you feedback and then having to reconcile different expert opinions.

Summary

The selection of training techniques (methods, media, activities, and materials) for a training program should be made after you are well into the ISD process. This is because the information collected from the needs assessment, task analysis, and audience analysis, along with the training goals and objectives and the evaluation strategy you have written, are extremely important to this process. When you select training techniques, you will first want

to consider what (training objectives) you are trying to teach; next consider who (target audience) you are trying to teach; and then consider how (training techniques) best to teach the training objectives. Methods are selected first, and then the media, based on their ability to deliver the selected method(s). Information about the target audience's values, beliefs, experience, and learning styles will be helpful to you in your selection of training techniques and in the design of materials for the training program. Be sure to incorporate methods into your training program that require high trainee involvement. Consider varying the training techniques to gain and keep trainees' interest. Before making a final determination of training techniques, however, you should consider factors such as cost, time, availability of existing materials and media, etc. (Hannum and Hansen, 1993).

Determine Facilitation Techniques

Once you have made a decision about what training techniques you plan to use in your training program, you are ready to begin thinking about the various facilitation techniques you will use (or may need) in your training.

Role of the Facilitator

You will recall from the Introduction to this Training Module that andragogy or the study of how adults learn provides specific guidance for trainers in terms of what constitutes effective training and instruction. According to adult learning theory, instruction or training needs to focus more on the process and less on the content being taught.

The role of trainers, then, is one of facilitator rather than lecturer or expert. In fact, the principles or characteristics of a positive adult learning experience (the foundation of the ISD process) have more to do with facilitation than content. (See page 7 for a list of the characteristics of a positive adult learning experience.)

Effective use of facilitation techniques is one of the best ways to ensure a positive adult learning experience. One way to do this is for the facilitator to describe his/her role at the beginning of a training program with an introduction. An example of such an introduction is included on the following page.

Description of Facilitator's Role

I'd like to begin by explaining my role as facilitator and asking for your help as I serve in this capacity. As this session's facilitator, I have three primary goals. These include helping trainers to:

- Achieve the training objectives
- Use the time wisely
- Participate effectively with one another

I will help you achieve the training objectives by outlining the objectives I have planned and then asking you for the objectives you would like to accomplish. For me to help you use your time wisely, we will be using the schedule on the wall. Does anyone have any questions about today's schedule? To help you participate effectively with one another, I need to make sure we're all of the same mind when it comes to how we will conduct our discussions. Here are a set of ground rules I propose we use for that purpose. (Note to trainer: the ground rules can be listed on a flipchart.)

Ground Rules:

- Speak one at a time and make sure everyone has a chance to participate
- Stick to task and topic
- It is OK to disagree, but please do so respectfully
- Break informally as needed
- Share responsibility for the group
- Other:_____

Does anyone have any questions about anything on this list? Does anyone have any rules to add? Is everyone willing to follow these ground rules for this session?

There are two last items. First, may I have your permission to let you know if I think you are losing sight of the session's objectives, the agenda, or the ground rules? Please raise your hand if I have your permission. Second, please let me know if I say or do anything that hinders your ability to have a positive learning experience. For example, if I give an instruction that you do not understand, please let me know. Or, if we are moving too quickly or too slowly, please say so. I will accept your feedback non-defensively and I only ask that you offer your comments respectfully. I will do the same. Now, let's begin our training session.

(Adapted from Sachs, 2002)

Using Wall Charts

The technique of using wall charts is an efficient method of making important information available visually throughout training. In addition, the use of wall charts can foster group dynamics. Some examples of wall charts and their possible effects on group processes are presented in Table 11 below. Also remember that wall charts do not necessarily need to be on walls. For example, they also can be placed on the floor as trainers enter the room or can be hung from the ceiling.

Table 11: Examples of Wall Charts and Their Uses in Group Facilitation

Wall Charts	Group Facilitation Uses
Daily Schedule	▪ Provides easy reference for trainees, guest presenters and facilitators
Housekeeping Information	▪ Provides participants information when they need it (e.g., location of bathrooms and telephones, smoking policy)
Parking Lot for Questions	▪ Addresses questions and, at the same time, keeps the training on track ▪ Acknowledge trainees' questions, but allows facilitators to manage time by answering some questions at a later time
Volunteer Sign-up	▪ Involves learners in the training process and gives them opportunities to accept team roles (e.g., break monitor, temperature controller, clean-up monitor)
Star Gazing	▪ Acknowledges differences in learners' attention spans and provides an acceptable phrase for Trainers to use when their attention has drifted and they have lost track of the session. ▪ Promotes group's use of the phrase "I was stargazing. Will someone please tell me what we are doing now?"
Dots	▪ Provides individual reinforcement and recognition for participation in the group (e.g., being a small group leader, recorder, break monitor or having said/done something which is appreciated). Note: The use of dots is not meant to be competitive and certainly not punitive.

Handling Difficult Behaviors

Another aspect of facilitation is knowing how to handle "difficult" behaviors during a training program. Having a set of strategies or possible responses ready if there are trainees who are disrupting the training experience for others will help ensure a positive adult learning experience for all. See the following table for possible responses to difficult behaviors.

Table 12: Techniques to Handle Difficult Behaviors

Behavior	Possible Responses
Acting Bored	▪ Consider whether the person is over- or under-qualified for the session, tired, or not self-confident. ▪ Change the pace of the session. Try to interject an interactive activity. ▪ Ensure participants understand how they will benefit from the session. Explain that what they learn can directly be applied to their jobs. ▪ Add humor when appropriate. Add personal interest stories related to the topic.
Arriving Late	▪ Start the session on time. ▪ Acknowledge the person's arrival by asking someone to volunteer to update the person during the break or after the session.
Controlling (dominating discussion, talking excessively, calls upon his/her higher authority—experience, access to information, credentials, seniority, status—to make a point)	▪ At the next breath, intercept with a summary of the current discussion. ▪ Break eye contact with the trainee. ▪ Ask others for comments. ▪ If necessary, talk with the trainee during a break or after the session. Solicit his/her help in getting other participants involved.
Digressing	▪ Gently remind the participant about the topic at hand. ▪ Acknowledge that the participant's topic is interesting. ▪ Ask the group if they would like to return to the original topic.
Leaving Early	▪ At the beginning of the session, state the expectations for arriving on time and staying until the end of the session. Confirm the ending time. ▪ Give him/her the task of letting the group know when there are 5 minutes left in the session.
Out of Sync (definitely expresses a wrong idea, fact)	▪ Ask other participants for their reactions to what was said. Or, say to the person who is off base, "that is one way of looking at it, but recent research shows that…"
Overly Agreeable (defers to others, does not express own thoughts)	▪ Find opportunities to recognize his/her contributions. ▪ Return the discussion to his/her point and ask others to identify the strengths in it. ▪ Ask if she/he would like to elaborate further.
Overly Helpful (very often has useful information before anyone else; translates other members' messages; is sincere, but keeps others out of the discussion)	▪ State appreciation for his/her contribution. ▪ Ask others if they have something to contribute also. ▪ Ask person whose message has been translated if the message was accurately represented.

Racist or Sexist Remarks	▪ Ask person who made the remarks to clarify what she/he meant. Consider saying something like "To make sure there is not a misunderstanding, would you please explain your remarks?" ▪ If the original statement was not misunderstood, say something to counteract the comment (e.g., "In my experience, I have not found this to be true.")
Shy (reserved, may want to participate, but unsure how to do so)	▪ Make a point to talk with the person during the break and later mention an important comment she/he made. ▪ Look often at him/her to demonstrate your interest in what she/he has to say. ▪ Directly request his/her thoughts if she/he seems ready.
Sub-Grouper (talks to the facilitator and not the whole group; talks to others nearby while the total group discussion is going on)	▪ Stop eye contact with him/her and look around the group. ▪ Ask if she/he would like clarification on a point or has something to tell the group. ▪ Walk closer to those who are having a side conversation; usually they will stop.

Organizing Supplies, Equipment, Materials, and Facilities to Support Activities

As a trainer you are responsible for ensuring the availability of training materials needed for training activities and organizing them prior to the training program. In particular, you should review:

- Supplies and equipment needed for a particular activity (e.g., props, models, handouts, paper and pencils)
- Space needs and arrangements (e.g., chairs and tables arranged in a certain way)
- Supplemental written or audiovisual materials needed for the training activity (e.g., skills demonstration or case scenario handouts, videos, diagrams, instructions, etc. which will be referred to or needed for completion of an activity)

For additional details refer to the following three checklists: the *Preparation Checklist* (Appendix A), the *Facility Checklist* (Appendix B), and the *Supplies and Equipment Checklist* (Appendix A).

It is important that the classrooms used for training sessions and small group activities be large enough to allow different arrangements of tables and chairs so that individual groups can work without disturbing one another. As a trainer, you should be able to move about the room to visit each group, answer questions and check on their progress. If the classroom is not large enough for all groups to work comfortably smaller classrooms near the primary classroom can be used. The arrangement, shown on the following page, in Figure 6 works well for most training purposes with Figure 7 an acceptable alternative.

Figures 6 and 7: Room Arrangements for Group Training

Figure 6

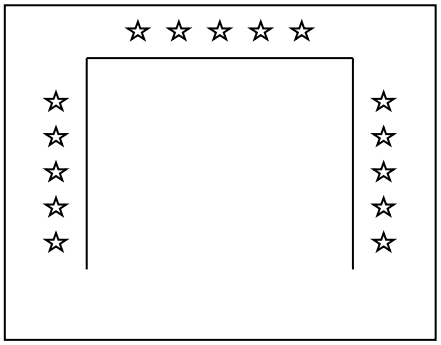
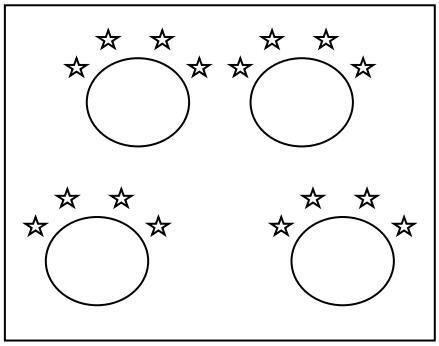


Figure 7



Assigning Trainees to Groups

When small group activities such as case scenarios or skills demonstrations are being conducted, it is important that trainees not participate in the same group every time. This is because small group activities can provide trainees with the opportunity to learn from each other and share a variety of viewpoints. The ideal group size for completing a small group activity is between four and six trainees. There are endless ways you can divide trainees into small groups other than the traditional way of asking trainees to count off "1, 2, 3," and have all the "1s" meet together, all the "2s" meet together, etc. For example, ask trainees to:

- Draw a group number or group name from a hat
- Divide into groups according to their birthdays (months or seasons)
- Ask trainees to form their own groups

Providing Feedback upon Completion of Activities

It is important to provide trainees with prompt feedback—either individually or to the entire group as a whole. Trainees need to know how they are doing, particularly with regard to the training objectives and expectations of the training course. Is their progress in learning new skills meeting the trainer's expectations? Is their level of performance meeting the standards established for the procedure or process? Positive feedback provides this information. Training activities should be designed to move from the known to the unknown, or from simple activities to complex ones. This sequence provides trainees with positive experiences and provides them with important feedback. To be effective, feedback should be immediate, positive and nonjudgmental. To provide positive feedback, you can:

- Give verbal praise either in front of other trainees or individually
- Recognize and reinforce appropriate skills and desired behaviors while trainees are completing training activities and during other times in the training session
- Inform trainees of how they are progressing toward achieving the training objectives

For more information about facilitation during a training session, please see checklists in Appendix B, especially the *Training Implementation and Logistics Checklist*.

Summary

The role of the trainer is to facilitate learning. An effective trainer will be comfortable using a variety of facilitation techniques such as wall charts, arranging the room for group activities, handling difficult behaviors, and conducting different types of activities.

Develop a Trainer's Toolkit

So far in Step 2: Plan, you have written training goals and objectives, developed an evaluation strategy, conducted an audience analysis, and selected and/or developed training techniques (methods, media, activities, and materials). With these completed tasks in mind, it is now time to actually design your training session.

It is useful to think about training techniques (methods, media, activities, and materials) in relation to when they will be used in your training session. For example, consider the following questions: how are you going to decide the sequencing in your training session; how are you going to use the training time most efficiently and effectively; what training technique are you going to use to open the session; do the trainees already know one another or do you need to plan an introductory activity; even if the trainees know each other, are icebreakers useful to help build group cohesiveness; how should presentation of the content be interspersed with activities; what techniques will you use to build in reviews of the material presented; and how will you close the session?

To aid your thinking about these questions and to help you plan your training, NTI has developed three tools: *Preparation Checklist*, *Overview of Training Session*, and a *Trainer's Outline* (Appendix A):

- *Preparation Checklist*: this list is for the *trainer's use* and lists any necessary curriculum materials, preparation tasks, and equipment and supplies.
- *Overview of Training Session*: the overview or agenda is for the *trainer's and trainees' use*. As a trainer, you can use it to plan your overall strategy for the session. It is a framework for the various components of a training program: openings, introductions/icebreakers, training objectives, content presentation, review activities, learning assessment, closings, and evaluation. (See Table 13 on the following page for descriptions of each of these components.) The overview also can serve as an agenda for the trainee during the training session.
- *Trainer's Outline*: this is a planning document designed for the *trainer's use* to help systematically plan and sequence a training session by reinforcing the relationships among the various aspects of a training program including: the time necessary for covering the content and completing the activities, the selected training techniques, associated supplies, instructions, talking points, where to find more information, and a notes section. It also can be used as your notes while you conduct a training session.

Table 13: Training Session Components

Training Component	Uses	Examples
Opening	▪ Introduces the training topic ▪ Gains trainees' attention right away ▪ Increases interest in the topic ▪ Creates curiosity about the topic ▪ Encourages trainers to start to engage with one another about the topic ▪ Attempts to decrease any anxiety trainees may have (Pike, 2003)	▪ Reading a case scenario that highlights the need for the upcoming training ▪ Asking trainees to bring an object (or photo of an object) related to the training content that can be used to prompt discussion ▪ Asking a series of questions about the training content ▪ Making a controversial statement related to an important aspect of the training content and asking trainees for their reactions ▪ Responding to questions verbally (e.g., in a game format) or in writing (pre-test or learning assessment) ▪ Completing a puzzle related to the content
Introductions/ Icebreaker	▪ Helps trainees become acquainted with one another ▪ For those already acquainted, helps trainees get to know each other better.	▪ Asking trainees to interview and introduce one another (designate 2-3 interview questions) ▪ Asking each trainee to say his/her name and to complete a sentence such as: The part of my job I like the most is… or What I most want to learn about this topic is…
Introducing Training Objectives	▪ Orients trainees to the session ▪ Points out important aspects the training will cover	▪ Using techniques such as "Window Panes" (Pike, 2003), also referred to as Whole Brain Organizer (Backer and Deck, 1996; Deck and Silva, 1989). This technique refers to using a series of graphics to facilitate the introduction and/or recall of presented material. It addresses both visual and auditory learners and thus increases retention.

Content Presentation: Skills Development	▪ Provides safe environment for trainees to learn and practice skills	▪ Demonstrating a procedure ▪ Using a learning guide or checklist to follow a video or live skills demonstration ▪ Drawing a diagram or map ▪ Designing and presenting a short talk ▪ Designing a brochure or pamphlet ▪ Developing a job aid for personal use or use by others ▪ Calculating or measuring something
Content Presentation: Influencing Attitudes	▪ Helps trainees to become aware of their own and others' attitudes about the training topic	▪ Reading and analyzing a case scenario or asking what trainee would do in that situation ▪ Describing a moral dilemma and asking how trainee would resolve the conflict ▪ Reflecting on personal experiences ▪ Participating in small group discussions
Review	▪ Reinforces content and summarizes main points	▪ Responding to questions verbally or in writing ▪ Reflecting on personal experiences ▪ Participating in small group discussions
Closing	▪ Revisits content ▪ Plans for future action and/or celebrates was has been learned and actions to be taken ▪ Motivates ▪ Provides link between what was learned and the work place Solem and Pike (1997), Stern and Payment (1995)	▪ Responding to questions verbally (e.g., in a game format) or in writing (post-test or assessment) ▪ Outlining a procedure or process ▪ Playing a game or completing a puzzle ▪ Participating in a large group discussion or debriefing ▪ Asking about future plans and how the training will impact work on the job

Guidelines for Developing a Trainer's Toolkit

When you use the above tools to plan your training, remember to include training techniques that:

- Appeal to the different ways trainees learn
- Increase interactivity
- Vary the methods and media fairly frequently

For example, use a lecture and slide. Follow these with a demonstration, a case scenario, and finally a discussion (Hannum and Hansen, 1993). Based on research by Buzan (1991) and on his own experience as a professional trainer, Pike (2003) developed guidelines for pacing presentations to maintain interest and involvement and to promote retention (Table 14). Although this is referred to as a "rule", you can use it as a basic guideline when planning your training.

Table 14: Pike's 90/20/8 "Rule"

Time	Pike's Experience	NTI Application
90 minutes	This is the average length of time an adult can listen with understanding.	Plan training sessions to run approximately 90 minutes, then include a break before proceeding to another 90 minutes (or less) block of training.
20 minutes	This is the average length of time an adult can listen with retention.	Change the pace of instruction approximately every 20 minutes (e.g., presentation, small group activity, video, etc.)
8 minutes	Learners retain more of the information if interactive training techniques are used.	Involve participants with the training materials approximately every 8 minutes (e.g., completing a worksheet, answering questions, reviewing notes, etc.)

Consider conducting a "dress rehearsal" of your training program and asking some of your peers (co-workers or supervisors) to give you feedback on your presentation and group facilitation skills, the training methods, media and activities you plan to use, and draft training materials. If possible, ask your co-workers to evaluate you using NTI's *Evaluation of Trainer Form* (Appendix A).

Summary

The *Preparation Checklist*, *Overview of the Training Session*, and the *Trainer's Outline* can serve as useful guides to help you plan out your actual training session. The 90/20/8 'Rule' can assist you in managing time and sequencing the different training techniques you have selected to convey the training content. These tools are given as guidelines to help you create

an effective training session, but it is important to remember they are not presented as rigid structures. Keep in mind your target audience's needs and retain your personal training style and creativity.

Make Training Site Arrangements

Although "make training site arrangements" is listed as the last task in Step 2: Plan, much of the work is done at the same time as the other tasks in the step. Most of the time, reserving the use of facilities and equipment, inviting guest speakers, and scheduling and advertising an event must begin at least several weeks, if not months, before the date of the actual training program. This kind of behind-the-scenes work isn't as glamorous as that of standing up in front of a group as the trainer, but in some ways it is just as important. We've all been to training programs where the room is too hot or too small, the food is bad, there aren't enough handouts, and there are technical problems.

In this task, you will begin planning the logistics of your training program. This will help ensure that you are well-prepared, less stressed, and both you and trainees have a more enjoyable training experience.

Guidelines for Making Training Site Arrangements:

1. Complete and refer to the *Training Implementation and Logistics Checklist* (Appendix B) to monitor your (or another's) progress in making arrangements for your training program.

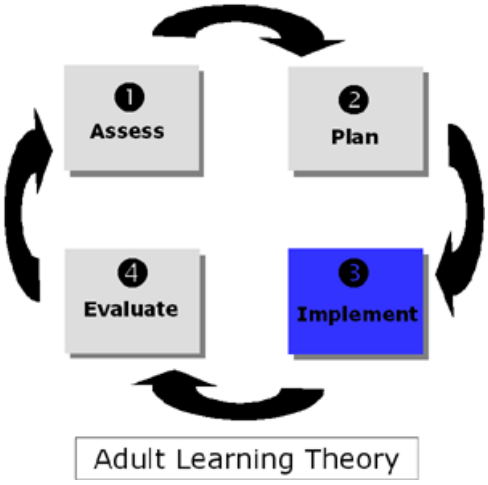
2. Complete the *Facility Checklist* (Appendix B) to determine whether or not a training site suits the needs of your training program.

3. Complete the *Supplies and Equipment Checklist* (Appendix B) to ensure you have the necessary materials and equipment for your training program.

Summary

Making arrangements for a training can involve keeping track of many details and accomplishing a number of tasks. You may need to make facilities and equipment reservations, purchase refreshments, schedule transportation, and apply for continuing education credits. As a trainer, you may or may not be the person responsible for the numerous logistical arrangements associated with planning and implementing a training program. However, if you are not the person solely responsible for making many of these arrangements, you will still need to make sure that certain tasks are being handled in a timely manner.

Chances are you will not be able to complete all of the arrangements for your training program at this point in the ISD process. By starting early, though, and by tracking your progress, you will be off to a good start.



STEP 3: IMPLEMENT

The third step in the ISD process refers to the actual delivery of the training. How the implementation happens is determined by the decisions made during the first and second steps of the ISD process (Assess and Plan). If, for example, the training was planned and developed for CCHCs, implementation would occur when the CCHCs arrive at the training facility and the lectures, demonstrations, audiovisuals and training activities are presented.

❸ **Implement**		
Tasks	**Tools and templates**	**Products**
Conduct training	▪ Training Implementation and Logistics Checklist ▪ Supplies and Equipment Checklist	Pre/post-test and evaluation responses

Conduct Training

Two of the templates referred to during the second step of the ISD process are of particular use during implementation of the training. If you have used the *Training Implementation and Logistics Checklist* (Appendix B) to track your progress throughout the Plan step, you will have a listing of the tasks that have already been accomplished. Similarly, if you have completed the *Supplies and Equipment Checklist* (Appendix B) you will have a reminder of the items you need to take to, and bring back from the training. Also, use the *Evaluation of Trainer Form* (Appendix A) which provides guidance on characteristics of an effective training presentation.

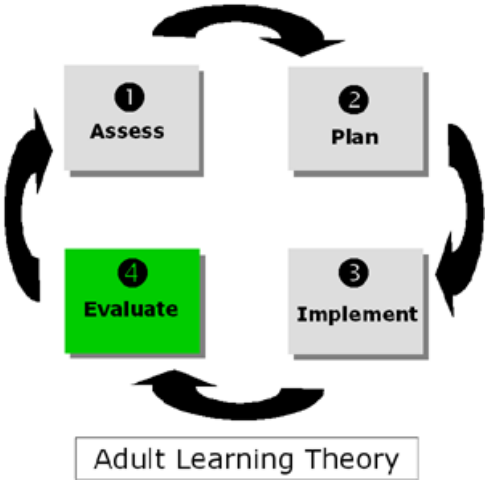
Guidelines for Conducting Training:

A comprehensive list of facilitation guidelines can be found in the *Training Implementation and Logistics Checklist* (Appendix B) and NTI's *Evaluation of Trainer Form* (Appendix A). Note that the order of the items in these checklists is not offered as a rigid structure, but one that can be adapted to each training situation.

Summary

Often trainers, through no fault of their own, are left in the awkward position of having to jump right into the Implement step, without going through the first two steps of the ISD process (Assess and Plan). This usually results in a less than satisfying experience for both the trainees and the trainer.

To prepare for the implementation of your training, you will need to complete several tasks in Step 2: Plan. If prior and proper assessment and planning have been done, however, the Implement step should be the easiest. Ideally, conducting the training is enjoyable for the trainer who has completed the prior steps and thus is well prepared.



STEP 4: EVALUATE

During this step of the ISD process you will implement evaluation strategies you designed and developed during the second step (Plan), and compile evaluation responses and pre-test/post-test responses collected during the third step (Implement).

4 Evaluate		
Tasks	**Tools and templates**	**Products**
Compile and review evaluation	▪ Evaluation of Trainer Form ▪ Evaluation Summary	Evaluation summary

Compile and Review Evaluation

Although "Evaluate" is described as the fourth step in the ISD process, it is important to remember that many evaluation tasks already have been incorporated into the preceding steps. All too often, training programs are designed and implemented, before thinking about how to evaluate the program begins. This only decreases the richness and usefulness of an evaluation. Following the ISD process described in this Training Module, however, should help prevent this.

Evaluation refers to the gathering of information and the making of subsequent decisions based on the information collected. Evaluation can occur both at the beginning of the training, when the trainer administers the pre-test to measure trainees' existing knowledge, skills, and attitudes related to the training content, as well as at the conclusion, when the trainer administers the post-test to determine if there is a difference in trainees' knowledge, skills, and attitudes after the training. Evaluation data are also gathered at the end of the training when the trainee completes an Evaluation Form to provide feedback to the trainer about the training's clarity and effectiveness. This is done to help the trainer determine if the design and implementation of the current training program are effective or should be revised. Evaluation also can be done many months after the training to measure retention and implementation of training skills.

To complete this task in the ISD process, you will focus on compiling evaluation responses and pre-test/post-test (assessment) responses collected during the third step, Implement.

Guidelines for Compiling Evaluation Responses

1. Enter the pre-test/post-test (learning assessment) scores to the *Evaluation Summary* (Appendix A).

2. Note any question(s) that two or more trainees answered incorrectly. It is possible that the question isn't written clearly or the training did not cover the content of the question to the extent you think it did.

3. Tabulate and enter the responses evaluating each trainer/presenter, activities, audiovisuals, handouts, etc.

4. Enter trainees' written comments from the *Evaluation of Trainer Form*. If there are many written comments, you may want to select several representative ones to enter.

5. Provide a summary of the evaluation to the trainers/presenters who participated in the training. If possible, ask them what they thought went well and what they thought could be improved.

6. Enter both trainees' and your recommendations for improving the training.

7. Keep the completed *Evaluation Summary* with the training materials so you can refer to it when you are ready to revise the training.

Summary

Evaluation is an often-overlooked step when developing training. It is essential, however, to determining if a training program met the trainees' needs and if the training addressed its stated objectives. Also, without evaluation data, trainers are unable to determine whether to revise their training programs, and if so, in what ways.

WHERE TO FIND MORE INFORMATION

Adult Learning Theory

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Step 1: Assess
Conduct Needs Assessment

StatPac - Questionnaires, Survey Design and Market Research
http://www.statpac.com/surveys/index.htm

SurveyMonkey
http://surveymonkey.com/

Zoomerang
http://info.zoomerang.com/

Conduct Task Analysis

US Office of Personnel Management, Hiring Toolkit Job Analysis Tools
http://www.opm.gov/hiringtoolkit/docs/jobanalysis.pdf

Step 2: Plan
Write Training Objectives

Clark D. Learning Domains or Bloom's Taxonomy
http://www.nwlink.com/~donclark/hrd/bloom.html

Clark D. A Quick Guide to Writing Training objectives
http://www.nwlink.com/~donclark/hrd/templates/objectivetool.html

Conduct Audience Analysis

Clark D. Learning Styles
http://nwlink.com/~donclark/hrd/styles.html

Develop Evaluation Strategy

The Evaluation Center
http://www.wmich.edu/evalctr/

The Evaluation Center-Guidelines for Developing Evaluation Checklists
http://www.wmich.edu/evalctr/checklists/

US Dept. of Education-Planning and Evaluation Service
http://www.ed.gov/offices/OUS/PES/index.html

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http://www.ed.gov/offices/OUS/PES/eval_faq.html

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Determine Training Techniques

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Boyd S. Ten Ways to Break the Ice!
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Centers for Disease Control and Prevention, Office of Communication, Simply Put
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Clark D. A trainer's toolbox of templates, outlines, and briefings
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Clark D. Icebreakers, warm-up, review, and motivator activities.
http://www.nwlink.com/~donclark/leader/icebreak.html

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http://www.nwlink.com/~donclark/hrd/media.html

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http://puzzlemaker.school.discovery.com

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http://www.hsph.harvard.edu/healthliteracy/resources/

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http://cancer.gov/pinkbook

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http://gucchd.georgetown.edu/nccc/documents/Materials_Guide.pdf

National Institutes of Health (NIH)
http://www.nih.gov/

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http://www.cs.state.ny.us/successionplanning/workgroups/knowledgemanagement/jobaids.html

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http://www.plainlanguage.gov/
http://www.plainlanguage.gov/howto/quickreference/checklist.cfm

Resource Center, How to use technology to run your program
http://nationalserviceresources.org/program-financial-and-grant-management/technology

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http://www.nal.usda.gov/wicworks/Topics/Health_Literacy.html

Workshops by Thiagi – Free Training Games and Instructional Design Tools
http://www.thiagi.com/freebies-and-goodies.html

Determine Facilitation Techniques

American Society for Quality, the Association for Quality and Participation and the International Association of Facilitators, Basic Facilitation Skills
http://www.uiowa.edu/~cqi/2002BasicFacilitationPrimer.pdf

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http://ctb.ku.edu/en/tablecontents/chapter_1016.aspx

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