

Utah Valley University

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Training and Development: An Adult Education Guide for Public Health Professionals

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Training & Development in Public Health



An adult learning
guide for public health
professionals



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Training and Development In Public Health

An adult learning guide for public health professionals

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Introduction

Project Background

Background

As a public health professional, have you ever been asked to...

- Present an idea or concept at a meeting?
- Show a co-worker how to complete a task?
- Present at a conference?
- Develop directions or instructions for a procedure?

Many of us in the category of “reluctant trainer.” A common sentiment may be that, “I will train others because I was asked to, but I’d rather be at the dentist.” If a person is reluctant to train, it will become evident to the trainee. Knowledge and practice of good training techniques is key to shedding a reluctant outlook on training. This publication will aid in transforming reluctant trainers into confident, more effective trainers, by providing tools and insight into training delivery.

About the Public Health Workforce

All public health workers contribute to one or more of the Ten Essential Public Health Services. As you read through this list and consider the range of the overall public health knowledge base, it becomes very clear that even the experts could always learn more. It is also evident that, whatever your expertise, you will have to share with, communicate with, and educate others, whether they are co-workers, stakeholders, or the community that you serve.

If you are part of the public health workforce, you contribute to one or more of the following Ten Essential Public Health Services (note):

1. **Monitor health status** to identify and solve community health problems
2. **Diagnose and investigate** health problems and health hazards in the community
3. **Inform, educate, and empower** people about health issues
4. **Mobilize community partnerships** and action to identify and solve health problems
5. **Develop policies and plans** that support individual and community health efforts
6. **Enforce laws and regulations** that protect health and ensure safety
7. **Link people to needed personal health services** and assure the provision of health care when otherwise unavailable
8. **Assure a competent** public and personal health care workforce
9. **Evaluate effectiveness**, accessibility, and quality of personal and population-based health services
10. **Research** for new insights and innovative solutions to health problems

Acknowledgements

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I also wish to thank the contributors to this publication, including Dr. Susan Mottice for her insight into the need for such a resource. I would also like to thank Karalee Atkinson and Kara Andrew for their editing assistance.

Sharon Talboys, Professional Development Project,
Director Utah Department of Health

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Chapter 1

Introduction to Adult Learning

It is often assumed that health educators are the only public health professionals who need to understand adult learning concepts and training and development techniques, but in reality, virtually all public health professionals are called upon to provide training or develop training materials at one time or another. This includes workers in highly technical disciplines such as epidemiologists, nurses, physicians, and laboratorians. In fact, all public health employees would benefit from understanding and using the basic principles of communicating important information to other people within their disciplines.

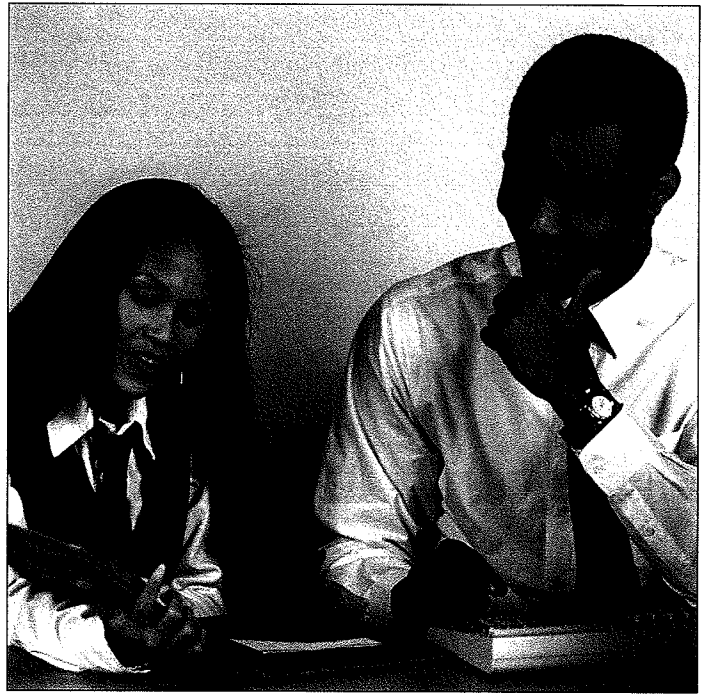
The effectiveness of training others how to perform essential skills can also be enhanced through learning and understanding the adult education concepts and skills discussed in this chapter. It is important to note that many of the skills public health workers need to learn require a set and unique processes and precision. A lack of effective training can often lead to ineffective and, at times, dangerous job performance.

The fundamental obligation of agencies responsible for population-based health is to:

- Prevent epidemics and the spread of disease
- Protect against environmental hazards
- Prevent injuries
- Promote and encourage healthy behaviors and mental health
- Respond to disasters and assist communities in recovery
- Assure the quality and accessibility of health services

In light of this obligation, effective and ongoing training and education is essential. This publication is designed to teach trainers how to teach and educate others. This is often called "Training the Trainer." This

publication was initiated in response to the need to prepare the public health and healthcare workforce for bioterrorism and other public health threats. This preparation will depend very much on our ability to teach each other.



This chapter will answer the following questions:

1. What important knowledge and skills do trainers need to be effective?
2. What are learning, training, development, and education? Are they different?
3. What are different ways that adults learn?
4. How do you arrange the environment to enhance learning?
5. What are the barriers to participating in learning activities?
6. How do you motivate adults to learn?

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What Should Trainers be Taught?

Before addressing adult learning concepts, it is important to review some background information about the knowledge and skills of effective trainers.ⁱⁱ There are certain concepts that should be taught to all individuals who will participate in teaching, training, developing, or educating other employees. Even though entire books and courses are taught on each one of these topics, this publication will provide only the basics of each of the following:

1. How to establish training objectives;
2. How adults learn;
3. How to communicate effectively (verbal, written, interpersonal);
4. How to plan each training session so that the material is presented clearly;
5. How to choose the most effective method(s) of instruction;
6. How to handle or deal with individual participants; and
7. Which behaviors are considered improper or unethical for effective trainers?

This publication is meant to be the beginning of the Utah Department of Health's "Train the Trainer" project. It is suggested that all trainers attend workshops that will provide them with the opportunity to discuss and practice the topics, methods, and techniques that are provided here. In addition, the bibliography provides a list of resources that may be helpful.

Learning, Training, Development, and Education

To begin understanding how to effectively teach adults, it is important to understand basic terms that are used, often interchangeably. However, each has its own meaning and domain within the adult learning arena.

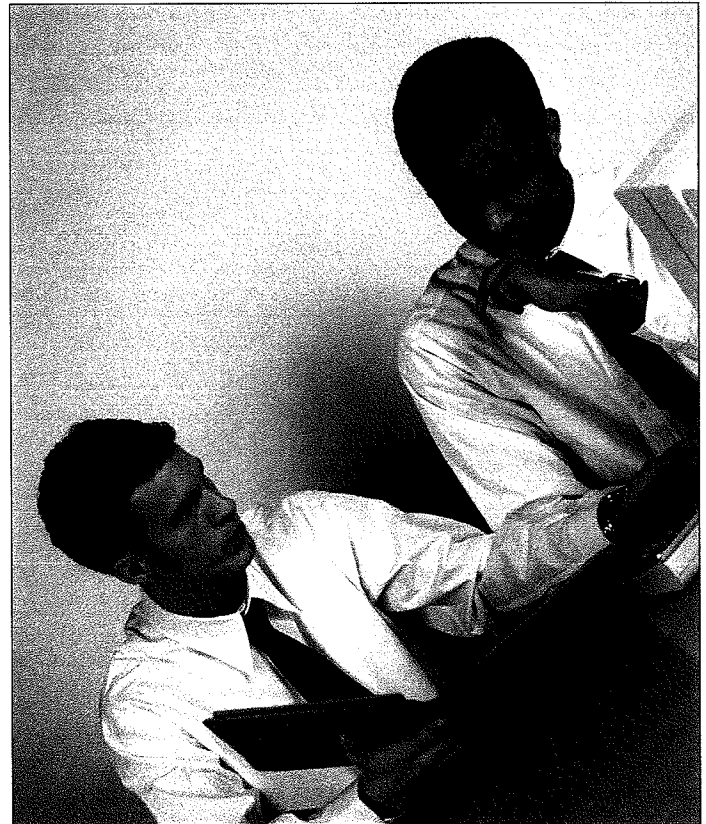
Training is the teaching of specific job-related skills.

Development goes beyond present job requirements and provides opportunities for employee growth. This growth is often obtained through the learning of new knowledge and the development of new skills and abilities.

Education is acquiring knowledge for overall human growth and development.

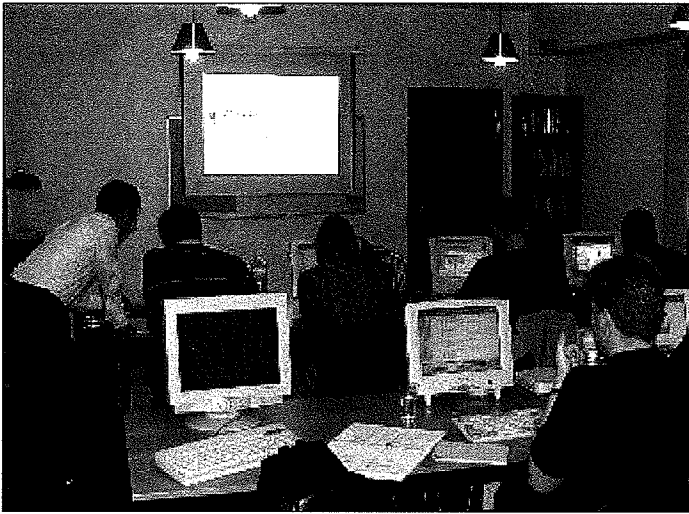
Learning is the process where humans acquire new knowledge, skills, and attitudes.

As you can see, training is focused on specific job-related skills, development provides information that goes beyond present job requirements but may be useful in the workplace, and education refers to the general acquisition of knowledge for overall human growth and development.



Learning Theories and Principles

There are many differences between how a child learns and how an adult learns. **Pedagogy** is defined as the art and science of helping children learn. These principles are widely used in the development and design of elementary and secondary educational curriculum. In the 1960s, a number of adult educators began to look for the differences between educating children and adults. Today there are many adult learning theories and models, of which the most practical will be discussed.



The Art and Science of Helping Adults Learn (Andragogy)

One of the best-known theoretical frameworks for adult learning is *andragogy*. It focuses on the adult learner's life situation and is the "art and science of helping adults learn." ⁱⁱⁱ It is based on five assumptions about the adult learner that can help us understand the differences in learning between adults and children: ^{iv}

1. As a person matures his or her self-concept moves from that of a dependent personality toward one of a self-directing human being.
2. An adult accumulates a growing reservoir of experience, which is a rich resource for learning.
3. The readiness of an adult to learn is closely related to the developmental tasks of his or her social role.
4. There is a change in time perspective as people mature—from future application of knowledge to immediacy of application. Thus an adult is more problem centered than subject centered in learning.
5. Adults are motivated to learn by internal factors rather than external ones.

From these assumptions, adult trainers can draw numerous implications for the design, implementation, and evaluation of learning activities with adults. With andragogy in mind, practitioners have suggested that at the beginning of training, the trainer should "establish a climate of equality and mutual respect, determine the expectations of the learners, involve them in planning the objectives and lessons, and acknowledge the value of

Learning Principles and Categories

Robert M. Gagne (one of the fathers of training and development) was well known for his foundational work in military training. He explained that some of the best-known learning principles include the following: ^{vi}

1. **Reinforcement.** Individuals learn faster as the amount of reinforcement during practice increases. The recommendation is to clearly design reinforcement opportunities throughout the training.
2. **Distribution of practice.** It is important that trainees practice the skills being taught. Understanding when and how many times the trainees should practice the skills is essential for productive training.
3. **Increasing the distinctiveness of elements of a task.** Research has found that any task can be broken down into quite distinct components. The identification and details of these components are essential in clear, concise training design.
4. **Meaningfulness.** It has been found that you can help employees learn, remember, and retrieve information by making it meaningful and familiar to them.

Meaningful learning is the primary goal of effective training and development. This means that an employee will be able and motivated to use the new information or skills in his or her job. So how can trainers, managers, and organizations help to ensure this happens? The following principles should be considered when designing learning so that it can be effectively applied. You will notice that these both overlap and support the principles just discussed.

1. *The employee needs to be motivated to learn.* Sometimes employees are motivated before attending a training session. However, trainers should always plan techniques to assist in the motivation of employees to learn (ideas will be presented in subsequent chapters).
2. *Learning needs to be positively reinforced by the organization.* Managers and colleagues should be encouraging and supportive of the training effort. Processes should be put into place so that the new skills and knowledge can be used by trainees in their jobs as soon as possible.

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3. *The employee needs to practice or utilize the skills and information taught.* During the training the employee must be asked to practice and discuss the concepts and skills. Unless practice is included, a majority of the training content will be forgotten. The key to retention is practice, practice, and more practice!
4. *The behaviors or topics of training are seen as meaningful to the employee.* The employee needs to understand how the topics relate to their jobs and work environments. The trainer needs to be very clear about the relevancy of the training material to the employees' jobs and lives.
5. *The content is effectively communicated.* If the training is not well organized or if the trainer is not able to communicate the material effectively, the training will not be meaningful to the learner.
6. *The content is transferable to the job setting.* Often, trainees sit through a potential learning situation thinking "this is nice—but how can I actually use this in my current job." Instructors must carefully develop material and practice sessions to assist trainees in clearly linking the material to their jobs. The transferability issues must be addressed throughout the training sessions.

Learning cannot be defined as a single process. Effective trainers must also understand the various domains of the learning process so that training can be customized effectively. Gagne^{viii} defined five such domains of the learning process (see Table 1.1).

The reason these are important to understand is that trainers must design sessions differently depending on the type of learning required. For example, designing training centered on the distribution of verbal information will focus on a presentation within an organized, meaningful context^x while the design of training centered on motor skills should focus on development through practice.

For additional examples and suggestions of how understanding and using these five learning domains in the design of specific instructional segments – see Appendix A. (This will be discussed in more detail in Chapter 4.)

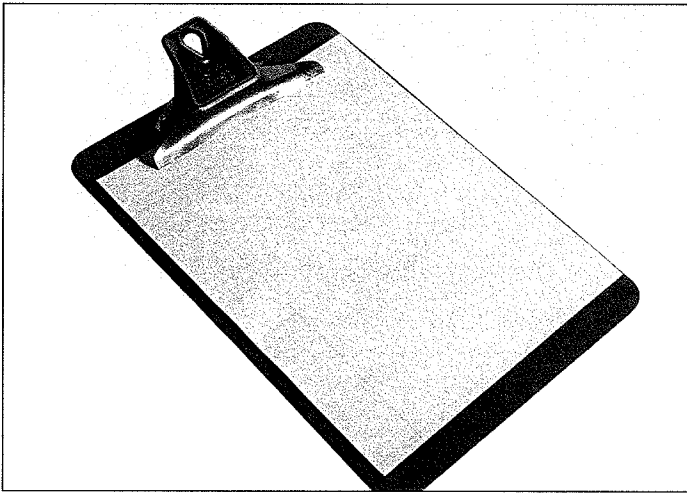
Table 1.1 Domains of the Learning Process^{ix}

1. **Intellectual skills** include concepts, rules, and procedures and are often referred to as procedural knowledge. The major requirement of information taught from this domain is the prior learning of prerequisite skills.
2. **Verbal information** enables the individual to state something about a subject and is also referred to as declarative information. The major requirement for learning in this domain is its presentation within an organized, meaningful context.
3. **Cognitive strategies** enable a learner to know when and how to use intellectual skills and verbal information. In this domain learning required repeated occasions in which challenges to thinking are presented.
4. **Motor skills** include basic human physical activities such as writing, lifting, and using tools. Learning in this domain is acquired through practice.
5. **Attitudes** are learned preferences for different activities. These are learned most effectively through the use of human models and "vicarious reinforcement".

Whole-Part-Whole

This theory is also known as "tell them what you're going to tell them, tell them, and then tell them what you've told them." Whole-part-whole (WPW) teaches that there is a natural whole-part-whole rhythm to learning.^{xi} The goal of this model is to assist the learner with a complete understanding of the training content.

Often technical trainers "jump right in" and train individuals on the pieces of a larger task. For effective training, it is essential that training be designed first with a "whole". This is to help prepare the learners for the new instruction that they will be receiving. This piece should provide motivation for the participants to want to learn by explaining why the training is meaningful and how it relates to their jobs. Trainees will be open to learning if they understand what the training is for and how it can



help them perform more effectively. During this first “whole”, trainees need to be given an overview of the training and training task so that their minds are organized and prepared for the content.

Next, the “part” represents the pieces of the overall training. After the first “whole”, then the sections of the training or task can be taught. At this point, trainees should be able to understand how each piece fits into the overall task.

At the end of the training, the final “whole” in the learning model should be presented. This is essential to link the individual “parts” back together so the trainee understands how it all fits together. Psychology research has found that learners need to leave training with a complete understanding of the content and how the parts all work together. Many teachers and trainers assume the learners can do this themselves. Don’t! It is important that the trainer complete this before a learner leaves the training environment.

Specific examples of the application of the whole-part-whole theory will be provided in Chapter 4.

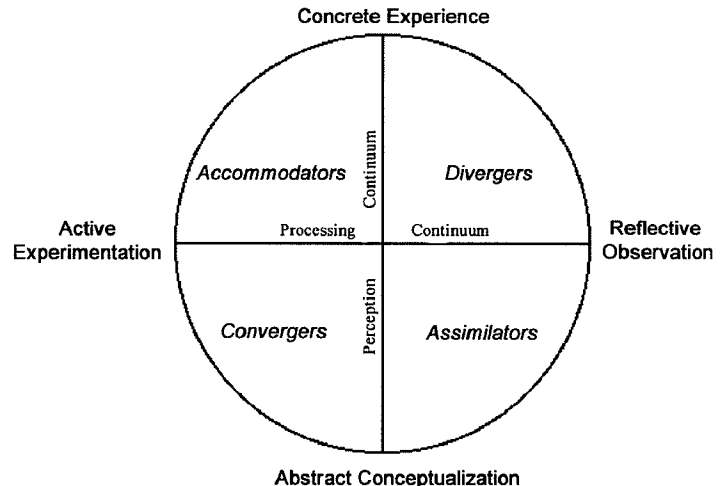
Kolb’s Learning Styles

Trainers can benefit from understanding the various learning styles of participants. In general, most of us tend to underestimate the role that learner preference can have in a successful learning experience. Many teachers and trainers let tradition (e.g., lecture) and available resources guide our delivery method.

Several researchers have studied the various learning styles of adults. One of the most well known of these models is Kolb’s Learning Styles. For Kolb, learning takes place through the transformation of past experiences. He taught that adults learn best when new information is presented in “real-life context.”^{xii} So the trainer’s job would be to transmit or implant new ideas and to modify old ones that may get in the way of the new ones.

Kolb taught that there are four steps in the learning cycle. These four steps then combine to create the four learning styles. First it is important to understand the four steps so that the four learning styles make sense. These steps include concrete experience, reflective observation, abstract conceptualization, and active experimentation.

KOLB’S LEARNING STYLES



1. *Concrete Experience*. First, the learner needs to be fully involved in current new experience. Appropriate learning strategies would include simulations, case studies, field trips, reading experiences and demonstrations.^{xiii}
2. *Reflective Observation*. Second, the learner needs to watch others and reflect on these observations from many perspectives. Appropriate learning strategies would include discussion, small groups, buzz groups, and designated observers.

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3. *Abstract Conceptualization*. Third, the learners need to create their own concepts that connect these reflections to good sound theory or explanations. An effective learning strategy would include the sharing of training content.
4. *Active Experimentation*. Finally, the learner must begin using these theories to solve their own problems and to make decisions. Appropriate teaching strategies include laboratory experiences, on-the-job experiences, internships, and practice sessions.

Some argue that these steps do not necessary have to occur in order and others state that some learners may use only one or two of these steps to effectively learn. Designing training with these steps in mind, however, can assist you in developing a program that would meet the needs of the majority of learners. It appears that usually people come to prefer, and rely on, one of these steps above the others. The combination of steps creates the main learning styles that trainers need to be aware of when creating instructional materials and presentations. ^{xiv}

Kolb identified four different types of learners. Each type of learner learns best from different styles. For example, an accommodator primarily utilizes the “concrete experience” and the “active experimentation” steps.

1. *Accommodators* wonder “what would happen if I did this?” They look for significance in the learning process and consider what they can do, as well as wonder what others have done before. Accommodators are good with complexity and are able to see relationships among elements of a system. ^{xv} Teaching methods that encourage independent discovery or permit participants to actively participate in the training are best.
2. *Assimilators* wonder “what is there to know?” They tend to like well organized and accurate delivery of information. They tend to respect knowledge from experts. They are often not

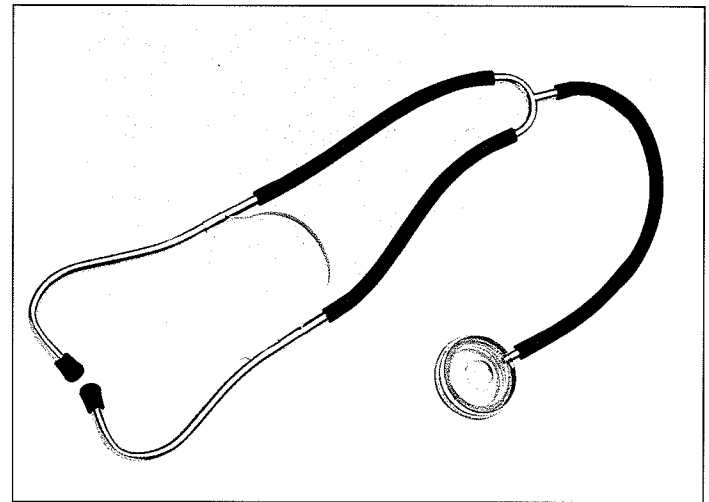
comfortable exploring something. They prefer to get directly to the *right* answer. Training methods that include lecture, video/audio presentations, demonstrations, and prepared tutorials with answers provided are preferred. These learners are perhaps less ‘instructor intensive’ than some other learning styles. They like to carefully follow prepared exercises if a resource person is available and able to answer questions. ^{xvi}

3. *Convergers* tend to learn more effectively though active experimentation and abstract conceptualization. They are motivated to discover the relevancy or “how” of a situation. They like detailed information about the operations of a system and constantly think about the application and usefulness of information. Preferred training methods may include interactive instruction, computer-assisted instruction, and problem sets or workbooks for students to explore. ^{xvii}
4. *Divergers* are motivated to discover the “why” or relevancy of a situation. These individuals like to reason from specific concrete information and to explore what a system has to offer. They prefer to have information presented to them in an orderly, detailed, and systematic manner. Effective training methods include the lecture method; analyses of the strengths, weaknesses and uses of a system; and hands-on exploration with the instructor mingling, answering question, and making suggestions. ^{xviii}

After acquiring an understanding of this model and the learning styles, you can apply this information to training design choices. It is important to remember that there are many types of training, some of which include working one-on-one and with small groups of individuals (see Chapter 2). In fact, typically 80 to 90 percent of an employee’s knowledge and skills come from some form of individual or small group on-the-job training. ^{xix} In these settings you should design training so that it can be easily customized to the individuals through using appropriate methods.

You may also be asked to design and present training and development sessions to large groups. Understanding various types of learners and training can assist you in designing programs that utilize a variety of methods. In large scale training and development it is important that the majority of trainees can participate in a preferred learning method in at least one segment of the training session. If interested, other learning style theories you may want to research include:

- Hill's cognitive style mapping
- Dunn and Dunn learning styles
- Grasha-Reichman learning styles
- Gregorc learning styles



Margin in Life

A more advanced adult learning theory was introduced in the 1960s by McClusky as the *Theory of Margin*. "His theory is grounded in the notion that adulthood is a time of growth, change, and integration in which one constantly seeks balance between the amount of energy needed and the amount available. This balance is conceptualized as a ratio between the load of life, which dissipates energy, and the power of life, which allows one to deal with the load." ^{xx}

For example, you have a supervisor who is very difficult to get along with and dealing with him or her may be a **load** to you. It may take energy from you to do your job and maintain an adequate work environment. On the other hand, you may have a supervisor who is wonderful for which to work. You may enjoy meeting with him or her and may feel energized (it may be a source of **power** to you).

Another example may be that you are required to learn a complex important new skill for your job as a health nurse. No one is assigned to train you and you feel uncertain from week to week about your skills and performance. This situation may feel like a **load** to you. It may take energy (mental, physical, and even social) from you. On the other hand, if an effective trainer worked with you for a day or so and not only taught

you, but had you practice and provided constant feedback until you were confident in your skills, you may feel a **load** for a short period of time but you would quickly arrive at stability or even power if the new skill is enjoyable or fulfilling for you to perform.

Exercise can be power for some and a load for others. Spouse and children can be either a load or power depending on your situation and how you feel. A good night sleep can provide power for most individuals. Poor health can take a lot of energy and be a load on you and others. Many employees have a difficult time learning new things when they are going through a divorce or are in fear of losing their jobs. Adult employees typically juggle multiple responsibilities and demands on their time.

To engage in effective learning, an adult must have some margin of power. This means that the load and power levels must be stable or you must have more power than load. "Maintaining some margin of power in order to engage in learning is a concept adults readily relate to". ^{xxi} Critics argue that employees can still learn even under heavy stress. However, the amount and long-term benefit of learning in this environment is unknown. I believe that the availability, appropriateness, reliability, effectiveness, and efficiency of training can be either a load or a power to employees.

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Other

How adults learn is a very complex field of study and there is much written about it. Knowledgeable trainers often discuss the theories that support their training design and development. It is important to also note that there are five overarching theories of learning that will not be discussed in this chapter. Merriam and Caffarella^{xxii} compiled information about these theories of learning (behaviorist, cognitivist, humanist, social learning, and constructivist) and their table of Five Orientations to Learning can be found in Appendix B. Finally, the bibliography contains a list of sources if you are interested in further study.



Arranging the Learning Environment

Research has shown that the learning environment can influence the effectiveness of learning. Researchers^{xxiii} have identified six important components of arranging the environment so as to facilitate effective learning. These include 1) conditions of practice, 2) feedback, 3) meaningfulness of the material, 4) individual differences, 5) behavior modeling, and 6) maintaining motivation

1. *Conditions of practice.*

- a. *Active practice.* It is important for learners to practice what is being taught. It is essential that the trainer or instructor be present early in the practice process so that mistakes can be identified and knowledge and skills can be refined.

- b. *Overlearned.* It is important to provide and encourage enough practice that it goes beyond what may be thought to be necessary. The skill should be overlearned so that the material is retained for a longer period of time and so that the skill becomes automatic.
- c. *Massed versus distributed practice sessions.* Another consideration is whether to divide practice into segments or plan one long or continuous segment. The answer is that it depends on the kind of task that is being learned. Most of the time it works best to ensure there are reasonable rest periods between practice sessions (spread them out). The rest periods seem to dissipate the fatigue that comes from continually doing or learning the same thing. Some recommend practicing only 2 hours per day on a new task. Overall, distributed practice works best.
- d. *Size of the unit to be learned.* There are three basic ways to teach units. Whole training is when you teach all parts in the first session (A + B + C) and then repeat the entire task over and over. Pure-part training is when you teach the first piece in the first segment (A), the second in the second segment (B), and so forth (one per session). In the final session you put them all together (A + B + C). The third way is progressive training. In the first session you teach piece A. In the second you review A and then teach B, (A + B). In the third you review and then add another (A + B + C), and so forth. There is no best technique for all skills or concepts to be taught. Often a combination works best.
- e. *Sequencing the training sessions.* Information about sequencing has been discussed in the whole-part-whole learning model and will be discussed in Chapters 4 and 5. Learning typically occurs in various stages. It is important to design learning experiences so that trainees can understand, learn, and retain information and skills most effectively and efficiently.
2. *Feedback.* Knowledge of results is essential for optimal learning and continual motivation. Feedback can include such techniques as verbal praise, test

scores, productivity reports, and performance measurement. Feedback should be provided as soon as possible. It appears that the feedback should help trainees feel that they are in control of their performance. Both intrinsic and extrinsic feedback on learning is important. In addition, positive feedback is "perceived and recalled more accurately and accepted more readily than negative feedback." ^{xxiv}

3. *Meaningfulness of the material.* Knowledge and skills are more often retained when they mean something to the learner. Meaningfulness means that the information or material has associations with other things in a learner's life and experiences.
4. *Individual differences.* Other theories discussed have addressed this component. However, it is also important to remember that learners will have many differences in areas such as:
 - Mental abilities
 - Cognitive controls
 - Cognitive styles (information gathering, information organizing)
 - Learning styles
 - Personality attributes (such as ambiguity tolerance, anxiety, locus of control, achievement motivation, introversion/extroversion)
 - Prior knowledge and experience

Overall, understanding individual learner differences can help trainers tailor learning experiences in various ways. ^{xxv}

- a. They tailor the manner in which they apply the core training principles to fit the cognitive abilities and learning-style preferences of the learners.
- b. They use them to know which of the basic principles are applicable to a specific group of learners.
- c. They use them to expand the goals of learning experiences.

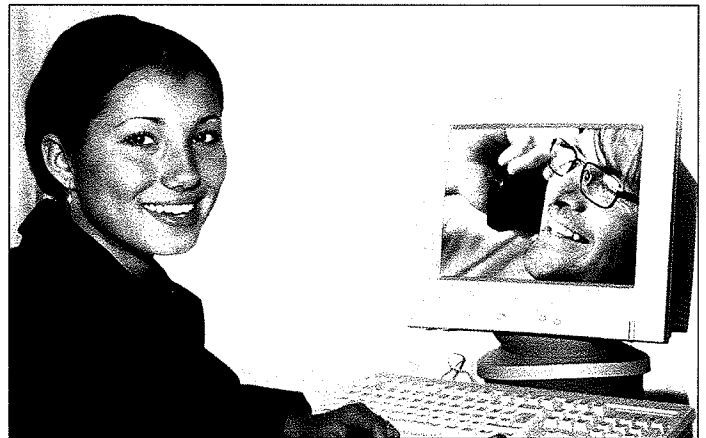
5. *Behavior modeling.* One of the most important ways to learn is by observing others. We learn by imitating actions of others that we see lead to desirable outcomes. This component of learning has been found to be one of the most effective ways to maximize learning. ^{xxvi}

6. *Maintaining motivation.* Learner motivation is essential in effective learning and change. This will be discussed later in the chapter in the Motivation to Learn section.

Barriers to Participation in Learning

A good trainer and educator will understand why some adults do not want to participate in formal learning activities. This information can be helpful in the marketing, design, and delivery of training and development programs. Researchers ^{xxvii} have found that the two most common barriers to participation in learning activities are lack of time and lack of money.

- 45 percent said lack of time was a barrier for job-related education
- 60.1 percent said they lacked time for non-job-related education
- 33.4 percent gave cost as a barrier for job-related education
- 25.4 percent gave cost as a barrier for non-job related education.



Respondents explained that family responsibilities were the primary reason for this lack of time and money. Other reasons ^{xxviii} that adults do not want to participate in learning activities include:

- Personal problems
- Lack of confidence
- Lack of interest
- Certain individual personality traits or characteristics

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- Beliefs, values, attitudes, and perceptions about learning and oneself as a learner
- Lack of motivation to learn
- Lack of awareness
- Unwillingness or un-readiness to learn
- Lack of a support system
- Lack of communication skills
- Past negative experiences with learning activities
- Perceived irrelevance
- Unvalued topic
- Inability to see how the learning material can be applied into actual jobs
- Unwillingness to believe the skills will be actually needed (may be viewed as a waste of time)
- Organizational culture that discourages learning
- Unsupportive managers/leaders

While working with individuals or with small groups, it is often effective to identify specific barriers to learning. By knowing these you can talk openly with trainees about these issues and help them find solutions to overcome them. Your organization can also benefit by understanding employee barriers. There are some organizational adjustments that can be made to assist in supporting these trainees.

Motivation to Learn

So how do you motivate others to want to learn? Just because they attend training does not mean they are motivated and will actually listen and apply the content in their jobs. One way is to look at the learning styles of your employees and design appropriate training. Another is to design with the foundational components of the andragogy (the art of teaching adult learners) and theory of margin frameworks previously discussed. Finally, understanding barriers to the participation in learning activities can help you design and deliver material more applicably and effectively.

One researcher ^{xxix} suggested that adult motivation to learn is the combination of four factors:

1. **Success** – adults want to be successful learners.
2. **Volition** – adults want to feel a sense of choice in their learning.



3. **Value** – adults want to learn something they value.

4. **Enjoyment** – adults want to experience the learning as pleasurable. ^{xxx}

These are key elements to remember in designing any type of training. To help learners be successful, let them have a choice in their learning, help them understand the significance so they will value it, and help them enjoy the learning process.

Inspiring trainers or on-the-job coaches can motivate employees (even if trainees were originally unmotivated) to learn. Characteristics and skills of these instructors will be discussed in Chapter 6 (Design and Implementation).

Expectancy Theory

A well known organizational behavior theory is very applicable to an employee's motivation to learn in training and development. Expectancy theory "suggests that motivation depends on how much we want something and how likely we think we are to get it. If people believe that certain behaviors (such as high-quality of work behavior) will lead to specific valued outcomes (like pay increase or praise from their supervisor), they are likely to try to exhibit those behaviors. But if they see little or no linkage between a behavior and a valued outcome, they may see little reason to exhibit the behavior." ^{xxxi}

Basically, according to this theory, an individual's motivation is the sum of three factors:

1. **Expectancy** – the belief that a certain amount of effort will lead to improved performance.
2. **Instrumentality** – the probability that when certain performance occurs, it will lead to valued outcomes.
3. **Valence** – the value you place on the outcome.

For example, adult learners are motivated to learn when they believe that they can actually learn a new skill (expectancy), believe that this new skill will help them perform better in the workplace (instrumentality), and believe that this new skill is important or that they will receive rewards for performing this new skill effectively. So, if learners feel that they cannot learn a new skill (physically or mentally), they will be unmotivated to learn. Maybe an employee believes he can learn a skill but does not believe that it will actually improve his job performance. In this case he may also be unmotivated to learn. Finally, maybe an employee wants to learn, thinks it will help him perform better, but does not value the final outcome. In this case he may also be unmotivated to learn.

By using this theory, practitioners can analyze individual employee's motivation and more effectively design the learning experience to motivate employees.

Conclusion

This chapter has discussed the theory behind what trainers need to do and know to be effective. It designated differences between training, development, education, and learning. It presented many theories and models that addressed the different ways that adults learn and why. It addressed adult learning principles related to designing the environment so that learning

is optimized. It discussed adult learning barriers, and finally, addressed some of the ways adults can be motivated to learn. These adult learning theories and principles are foundational to being effective in designing, developing, and delivering effective training. The concepts in this chapter should be reviewed throughout the training and development process.

Endnotes:

- ⁱ Members of the Essential Services Work Group included representatives from the Association of State and Territorial Health Officials, National Association of County and City Health Officials, Institute of Medicine (National Academy of Sciences), Association of Schools of Public Health, Public Health Foundation, National Association of State Alcohol & Drug Abuse Directors, National Association of State Mental Health Program Directors, and Public Health Service.
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^{xii} Knowles, M.S., Holton, E. F., & Swanson, R. A. (1998). *The Adult Learner*(5th ed.). Houston: Gulf Publishing (p. 147).

^{xiii} Knowles et. al. (1998, p. 148).

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^{xvii} Ibid.

^{xviii} Ibid.

^{xix} Jacobs, R L., & Jones, M. J. (1995). *Structured on-the-job training*. San Francisco: Berrett-Koehler.

^{xx} Merriam & Caffarella (1999, p. 279-280).

^{xxi} Ibid.

^{xxii} Ibid.

^{xxiii} Wesley & Latham (2002).

^{xxiv} Ibid, p. 89.

^{xxv} Knowles, M. S. (1984). *Andragogy in Action*. San Francisco: Jossey-Bass.

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Chapter 2

Introduction to Training and Development

T*training* has previously been defined as the teaching of specific job-related skills, knowledge, and attitudes to employees. *Development* goes beyond present job requirements and provides opportunities for employee growth. This growth is often obtained through the learning of new knowledge and the development new skills and abilities. Many workers are thrown into a trainer role without a thorough understanding of what it is and how they can be effective. This chapter will provide an overview of training and development and also discuss training basics. It will include sections focused on answering these questions:

1. What are the general purposes of training and development?
2. What are the knowledge and skills effective trainers should possess?
3. What are the different types of training and what are the advantages and disadvantages of each?
4. What are different teaching techniques that can be used to provide training?
5. What are the outputs of training?
6. What are some research-based truths about training?
7. What is a primary model that can be used in understanding the training process and implementing a program?
8. What are some effective training strategies and tips?



General Purposes of Training and Development

The general purpose of training and development involves the acquisition of knowledge and skills. Training helps ensure that employees can do what the organization asks them to do. Any training and development program can have one or more of the following goals ⁱ:

1. to improve an employee's self-awareness;
2. to increase an employee's skill in one or more areas of expertise; and/or
3. to increase an employee's motivation to improve his or her job performance.

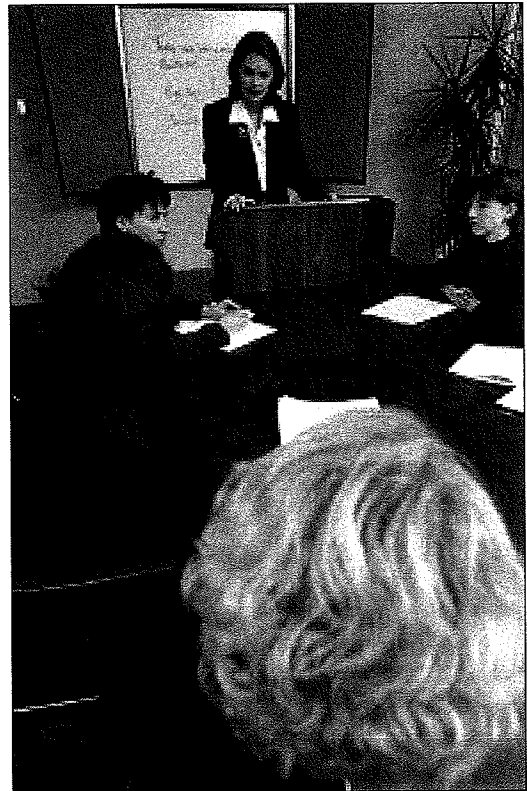
Effective Trainers

An effective trainer must obtain certain knowledge and skills to be effective in training employees ⁱⁱ.

1. A trainer should clearly understand the skills and knowledge to be taught.

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2. A trainer should have knowledge of and the ability to use various training methods and learning principles.
 3. A trainer (especially if he or she is involved with training design) should understand organization, task, and individual analyses.
 4. A trainer should have knowledge and skills in effective evaluation of the effects of training and development programs.
 5. A trainer should possess certain personal qualities that facilitate learning. These include qualities such as being:
 - prepared ahead of time;
 - able to anticipate questions and answers;
 - flexible to adjust training if necessary;
 - flexible to cope with diverse personalities and skill levels;
 - open and willing to make changes
 - or possessing the personality from whom the trainees want to learn;
 - able to model the characteristics or concepts being taught;
 - enthusiastic;
 - motivated;
 - fair to all trainees; and
 - firm to hold trainees to their performance responsibilities.
- develop a system that provides feedback to the trainer on the quality and effectiveness of the training; and
 - ensure that they know how to cope with feedback received (e.g., breath, pause, reflect, respect, and then respond)



If managers, supervisors, or frontline employees are to be the trainers, it is important that the organization should: ⁱⁱⁱ

- ensure that the trainers have appropriate knowledge and skills;
- include the delivery of training in their job descriptions;
- provide resources to cover missed work resulting from training responsibilities for frontline employees;
- develop an easy system for them to document and keep track of training and progress;
- include training delivery as part of their performance reviews;

Types of Training and Development Programs

The two broad categories of training types include *on-site* and *off-site training*. The major types of on-site training will be discussed first, followed by the major types of off-site training methods. In addition, the advantages and disadvantages of each will be presented. This information should help you make decisions about which method(s) would be most effective and appropriate for your content material(s).

On-Site Training

From the title it is clear that on-site training is training presented or conducted at the trainee's worksite. In this section the various types of on-site training (such as on-

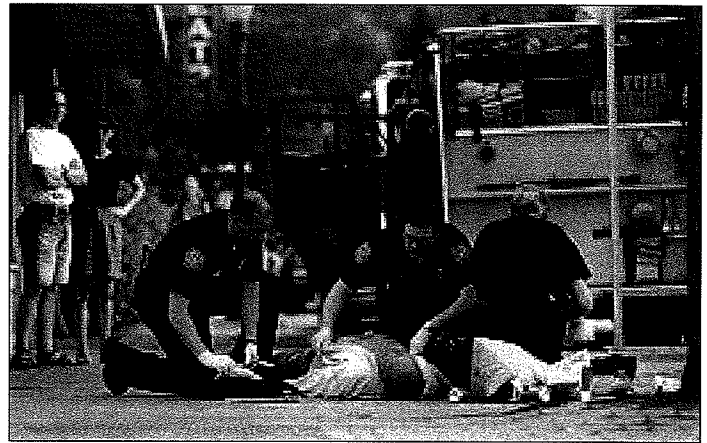
the-job training, job aids, coaching, mentoring, technology-based training, apprenticeship training, and job rotation) will be discussed.

One major advantage of on-site training is that it is typically less costly because it is conducted in the same physical and social environment in which the employees work. In fact, during some of the types of on-site training, employees can actually contribute to the organization while they are learning. Another advantage is that, often times, the learning acquired from the training can more easily be transferred into the actual work setting.

A major limitation of on-site training is that sometimes trainers (coworkers, supervisors) do not have the motivation or ability to provide effective training. Sometimes these trainers do not want to train and feel they are being taken away from their regular job duties. Others may feel that their own job security is threatened if they participate in training others. Finally, others who may not want to train may feel resentful that they have to be "out on a limb" in front of their own peers. As a director of a training program it is essential that these issues be confronted and addressed with those who are assigned to present training sessions.

On-the-Job Training (OJT). OJT is the most widely used training and development method. OJT includes both unstructured and structured training. Structured OJT has been shown to be much more effective and efficient than unstructured OJT. Research has shown that unstructured OJT leads to increased error rates, lower productivity, and decreased training efficiency. OJT typically includes experienced workers or supervisors teaching either new employees or employees learning new skills. The trainee is expected to learn by listening, observing, and practicing the new skills. Typically, the actual materials, employees, and machinery used during training will comprise the job once training is completed.

Advantages: Trainees learn knowledge and skills while they are actually producing work. The transfer of learning from the training to the job is high. It is



fairly inexpensive when compared to other methods.

Disadvantages: This method can easily fail if the trainer is unmotivated, unwilling, or lacks training ability. In addition, if the organization treats training haphazardly, training will often fail.

More details on OJT can be found in Chapters 5 and 6 on the design and delivery of training.

Job Aids. Job aids are instructional materials located on the job to help employees remember information presented in training (or sometimes in place of training). Some examples include pictures, photos, charts, posters, lists, and short notes.

Advantages: It provides tools that employees can use very quickly. Essential information can be reviewed by employees whenever time is available and whenever skill application is needed. Job aids can be relatively inexpensive and easy to use.

Disadvantages: Some employers rely on job aids for all training needs. Most trainees need to observe and practice new skills and receive performance feedback.

Coaching. Coaching refers to two primary types of activities: performance management and when an individual (inside or outside the organization) is asked to work with another individual to assist him or her improvement in specific areas. First, employees can be coached through periodic one-on-one reviews of performance. If done correctly, employees have a strong role in the development process. Specific goals are established, criticism is avoided, behavior modeling is

2 Introduction to Training and Development

available, feedback is provided, and constraints are noted and discussed ^{vi}. Second, an employee can be coached by an outside consultant, supervisor, or a coworker if he or she is proficient in certain area(s) of deficiency that, if addressed, would improve the performance of an employee.

Advantages: If done well coaching can help employees improve performance; improve communication and collaboration between supervisors, employees, and peers; and help employees set short and long-term goals for job improvement and career development.



Disadvantages: Problems can easily arise in sessions that can thwart any developmental progress. Managers/ supervisors may resist because they feel uncomfortable talking about employee's performance and lack the coaching skills necessary. Employees can also become defensive when coaching sessions are viewed as a threat in some way.

Mentoring. Teaching through mentoring is similar to teaching through coaching. "Mentors are typically people two or three levels higher in the organization than the trainee who want to help less experienced employees learn the roles in a non-threatening, supportive relationship." ^{vii} A mentor should be someone who has experience, is productive, and able to relate well to an employee who is less experienced. Most of these relationships continue to be informal but formal mentoring programs are now being widely established. Most mentoring programs are not used for basic training needs but are used for employee development.

Advantages: It provides career support and also serves as a role model and provides positive acceptance. If it works well, employees experience higher salary, promotions, and job satisfaction.

Disadvantages: It is often performed ineffectively. Often mentors do not make the time needed for effective mentoring. Some mentors are chosen who do not have the skills necessary for effective mentoring. This method is not always available on a wide-scale. Typically it is reserved for only those who have obvious external talent and potential. Others may be unwilling to come forward and make requests for such training. ^{viii}

Technology-Based Training (TBT). TBT refers to training delivered by means related to technology. This type of training can be done on-site or off-site. Some of these include:

- Floppy disks
- CD-ROM
- DVD-ROM
- Electronic performance support systems
- Internet and intranet
- Multimedia (i.e., audio, visual, animations)
- Virtual reality simulations (digitally created real-world environment)

There are various advantages and disadvantages of each mode but only general ones will be discussed.

Advantages: This method works well for self-directed learners. Learners can participate in training when and where it is convenient. After the product is developed training can be accomplished fairly inexpensively. TBT offers many creative modes and options for design. Internet can be easily and quickly updated and revised. It can work well if a training specialist and technology specialist team up for the training design and development. Interactive training can be very interesting and motivating for learners (especially those who enjoy technology).

Disadvantages: TBT is usually very expensive and time consuming to design and produce. Many leaders decide to fund this type of training without thoroughly studying the long-term worth of the effort (for example, are there a large or small number of employees who would benefit from the

training). Some modes of TBT can be very costly to revise. Many design TBT poorly. All too often the computer-specialist is asked to also design the training content. These individuals rarely have experience and knowledge in training content design.

Job Rotation or Cross-Training. Job rotation involves giving employees job assignments in various parts of the organization (each for a specific period of time). For example, in hospitals this is sometimes done with nursing assignments. Cross-training can be achieved through job rotation but it also means that employees are taught to perform tasks typically outside their assigned duties. For example, because a community nurse may occasionally fill in briefly at the receptionist desk, nurses may benefit from a structured training period on reception desk duties.

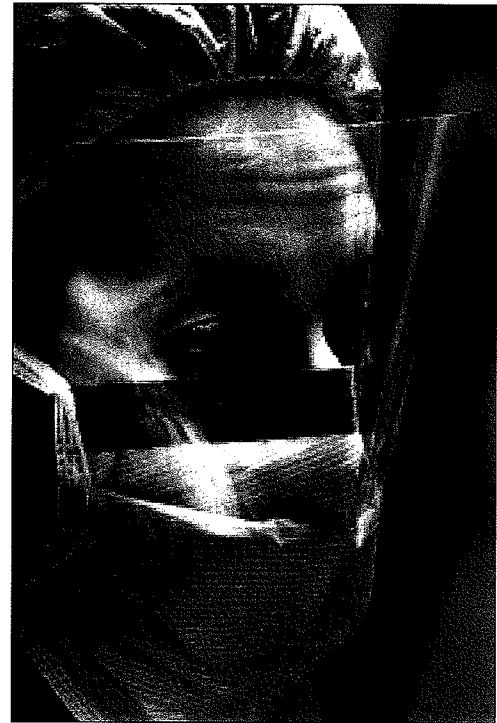
Advantages: Trainees gain a full perspective of the organization and understand the various parts and their purposes. This is an effective method of training employees who have high potential for future top management positions. It helps trainees broaden their perspectives.

Disadvantages: If not tailored to the needs and capabilities of the individual trainee, this method becomes ineffective. The trainee utilizes various types of training within this mode because he or she will need guidance in every department or position he or she works. It is often complex to administer effectively. Many companies find this costly and difficult. The assumption with cross-training is that the employee will be with the organization long-term. If the employee is not, the overall cost may be high. ^{ix}

There are also variations of cross-training. In a public health setting it may be effective to cross-train employees on important tasks (instead of an entire position). This can be effective in emergency situations, especially in remote areas.

Off-Site Training

Off-site training is conducted away from the actual worksite. This section will address instructor-led classrooms, audiovisual techniques, video-conferencing,



conferences and seminars, and simulation. All of these are typically designed to help trainees improve job skills. These may include such skills as active listening, appropriately handling people in panic, responding effectively to emergency situations, diagnosing biological illnesses, and such.

An advantage of this type of training is that it allows the employee to obtain skills and knowledge away from the day-to-day job pressures. Settings like company-operated training centers, hotels, conference centers, university/college facilities, or resorts are often used. ^x Another advantage is that professional trainers are often used. They usually have professional knowledge in the subject but also have a high level of teaching skills.

A disadvantage is that trainees may have difficulty in taking the new knowledge or skills and transferring them into their actual job environments. They have difficulty in the application of this information. In addition, management often fails to supply the follow-up needed to sustain new performance levels over time. ^{xi} Finally, instructors or coordinators are often not trained in instructional design and do not design an effective training experience.

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Instructor-Based Programs: Instructor-based training continues to be the second most widely used training delivery method (next to OJT). Instructor-based programs approach training and development from a teaching and learning perspective.^{xii} Organizations used this type of training by providing in-house training seminars, using training resource companies, colleges and universities, and professional and trade organizations. It is essential that trainers be knowledgeable in both the topic and learning and teaching strategies as well as be strong in presentation skills. Trainers must be prepared but flexible. The goals of this type of training is to teach and improve job-related skills through use of cognitive (i.e., thoughts and ideas) change strategies.^{xiii}

Advantages: When dissemination of information is a primary goal, instructor-lead training continues to be as good as other training modes. It is easy to supplement or integrate this mode with other training modes to enhance its effectiveness.

Disadvantages: Ineffective trainers use this mode for all types of training. It has not been effective when used for such topics as modifying attitudes, developing, problem-solving skills, or improving interpersonal competence.^{xiv}

Audiovisual Techniques: Instructor-led training can be enhanced and enriched by using audiovisual training methods such as videos, TV, and presentation software (such as Microsoft's PowerPoint). This software is now

designed to include clip art, sounds, pictures, and movies if desired. Some training is designed and offered with the sole use of these methods.

Advantages: Audiovisual techniques are effective in illustrating how certain techniques should be followed. Flexibility of this method (such as stop action, instant reply, use of arrows) can help enhance learning. Learners can also be taught about events that are difficult or impossible to demonstrate in a classroom (such as surgery, preparing to repair equipment at a different site, or preparing to respond to bioterrorist events). This model works well when training needs to be conducted at many sites in different parts of the state or country.

Disadvantages: Even with improvements in technology, there are sometimes problems with connections, equipment, and such. It is always recommended that a backup plan be designed and prepared for implementation if needed.

Video-Teleconferencing: Video-teleconferencing is a training method used when training needs to be conducted at multiple sites. This method allows for instant exchange of audio, video, and text between individuals or groups at various sites.

Advantages: Materials and information can be instantly exchanged between sites. It can be effective when the organization does not have enough skilled trainers or the organization does not want to bring together all of the trainees. It lowers traveling expenses, provides faster delivery of information, and remote sites have greater access to trainers.^{xv}

Disadvantages: Even though costs have been reduced, the cost of videoconferencing is still quite high. A thorough needs analysis needs to be conducted to insure that this will, in fact, be financially effective and have successful transfer of learning from the training to the job. Even with improvements in technology, technical problems still exist. It is essential that multiple individuals at the primary and remote sites be trained in the operation and troubleshooting of related equipment.^{xvi}



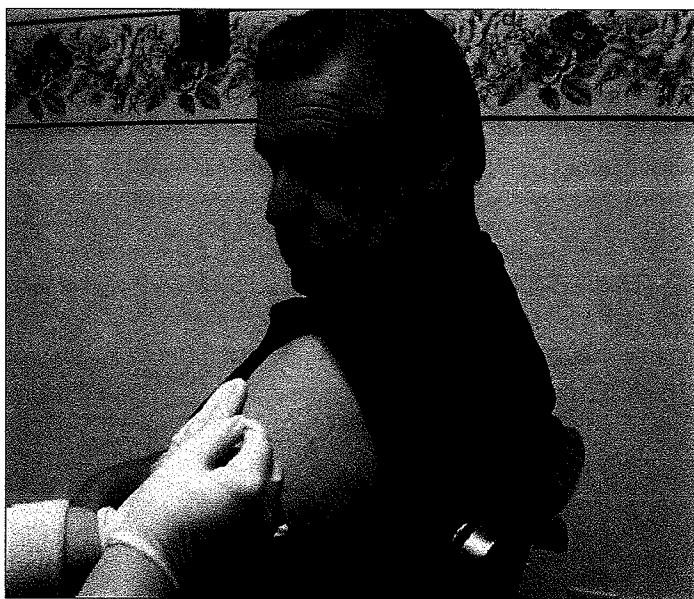
Introduction to Training and Development 2

Apprenticeship Training. Organizations that use apprenticeship programs employ skills trades- people. Reports xvii state that apprenticeship training typically combines OJT instruction with classroom and shop instruction. Journeyman trainers serve as models and are responsible for socialization. These programs typically last anywhere from two years to five years.

Advantages: Employees are very effective and competent by the completion of the training program.

Disadvantages: Entry into the profession is controlled by the unions who are supportive of apprenticeship. Training period is very lengthy. There is sometimes a shortage of trainers who are willing and effective. It is a long term commitment for both the trainer and trainee.

Simulations: Simulation is a type of training where a real life environment or situation is imitated so that trainees can practice actual skills and be prepared to respond without the actual event taking place. In public health, a



bioterrorism event is such an example. Some simulations are designed using actual equipment and virtual reality simulators. These appear to work best for the following five categories: xviii

1. **Procedures.** A simulation may be designed to train such tasks as testing a sample in a microbiology lab, the process of contacting workers (e.g., phone tree) in an emergency situation, and the procedures for adjusting and calibrating complex equipment.
2. **Motor skills.** A simulation may be used for teaching a motor skill such as operating a piece of medical or emergency equipment, operating a new GSL system, and more.
3. **Conceptual tasks.** Simulations may be used for activities requiring conceptual reasoning. These may include tasks such as equipment troubleshooting, interpreting and decision-making related to an environmental fuel spill scene, and responses to various types of threats.
4. **Identifications.** Simulations may be designed to represent such activities as the identification of specific injuries, biochemical threats, safety hazards, and other health threats.
5. **Team functions.** Some complex simulations emphasize effort coordination among team members toward achieving a common goal (such as emergency room staff).

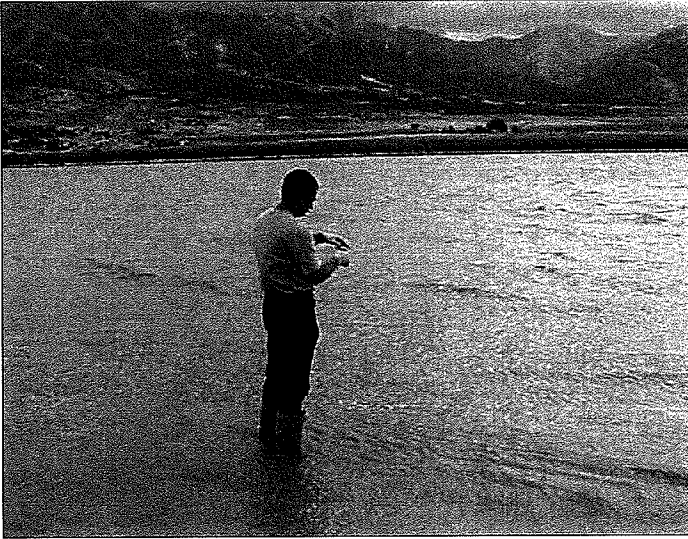
Simulations are typically used to teach and improve job-related skills through use of changing behavior. Even though there is some cognitive information presented, the focus is still on trainees practicing their newly learned skills. xix

Advantages: Trainers can conduct this type of training without putting participants in actual danger. They can be designed to be very realistic so that trainees perceive themselves as being in the actual environment. In some cases, training in a real environment is too costly. This mode is useful when it is clear that other methods are not effective with the overall skills needed to perform certain tasks and in certain situations.

Disadvantages: Effective simulations are very complex and often difficult to plan and coordinate, especially in the public health arena. Unless they are planned effectively, this type of training may provide or yield marginal results.

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What Are Different Teaching Techniques Used in Training and Development?



There are many teaching techniques that can be used within the various types of training just presented. ^{xx} Inexperienced trainers often use one or two of them. They train using only what they know or have experienced in the past. Often this consists of lecture and slides. Fortunately there are numerous types of training design and delivery techniques. This is not intended to be an exhaustive list but to give you ideas and hopefully encourage your creativity.

Possible Training Techniques

- Action Planning
- Behavior Modification Techniques
- Buzz Groups
- Case Study
- Coaching/Feedback
- Consequence Management
- Debate
- Debriefing Experience
- Demonstrations
- Designated Observers
- Discussions
- Facilitation Tools
- Field Trips
- Games
- Graphic illustrations (such as diagrams, slides, overheads)
- Group Presentations
- Guest Speakers
- Internships
- Lecture
- Laboratory Experiences
- Meditation
- Mental Rehearsal
- Modeling
- On-the-job Experience
- Outdoor Teamwork Courses
- Question and Answer
- Panel of Subject Matter Experts
- Practice Sessions
- Programmed Instruction (online training, structured independent study courses)
- Projects (class or individual)
- Prompting and Cueing
- Punishment
- Reading
- Real Experience
- Reflection
- Reinforcement Strategies
- Reviewing
- Role Plays
- Scenario Building
- Self-Assessments
- Self-Directed Learning
- Service-Learning
- Sharing Content
- Simulation
- Skill Drills
- Skits
- Small Groups
- Story Telling
- Student Presentations
- Testing
- Videotape or Film
- Visualization

Training Outputs

What are training outputs? Training outputs are the expected or hoped end results from the training and development process. It is important to remember that unless an effective training evaluation system is in place, the true outputs of training and development cannot be measured ^{xxi}. Methods of evaluation will be discussed in Chapter 7 (Training Evaluation).

Training outputs occur as a result of combining the training inputs (e.g., employee, location, learning task) during the training process. The training outputs include the ability of the employee 1) to perform the task to the level defined by the training objectives, 2) to perform the task to the level required by the job, and 3) to help the employee achieve his other developmental and career goals. ^{xxii}

Sometimes training is implemented with an unwritten goal of employees just being able to complete it! In this situation there is no expectation that the employee will change or improve his or her performance. Why train if there is no performance basis for it? The output of any training and development program should be to improve the performance and learning (through change) of employees. If the trainee is a new employee or if a new skill is being taught to an existing employee, the goal should be that the employee can competently and safely perform the task(s).

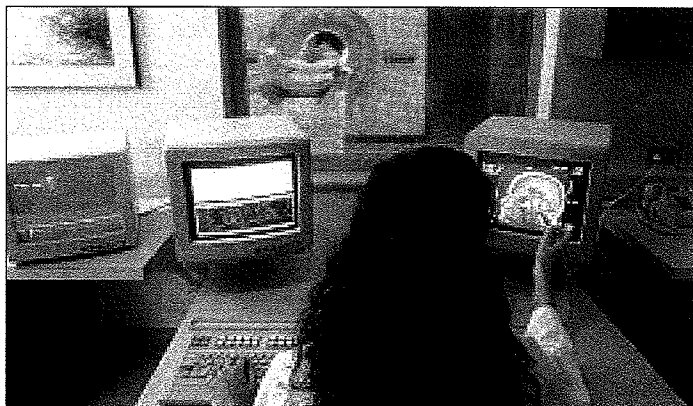
Training Truths

There are a number of research-based truths we know about training. ^{xxiii}

First, many of the performance-related problems in an organization cannot be solved by providing training. Many times the problems are management issues and training cannot be used as the “magic wand” to fix these types of problems.

Second, because people need to learn their jobs, some type of training is always present. Often it is unstructured and ineffective. It appears that during unstructured training employees productivity levels are less than 50 percent.

Third, with structured training employees achieve competence in a lot less time. With structured training employees can typically handle more complex work tasks when compared with unstructured training. Fourth, the results of structured, effective training consistently include high financial returns on investments. In fact, responsible training consistently results in 8:1 to 12:1 ROI (return on investment) in about one year. Finally, if you have 10 or more people who need to be trained on a specific task, structured classroom training appears to be justified. Structured OJT is usually more cost-effective if there are less than 10 employees with training needs.



The Training Process

There are numerous training and development models but only a few have become standard in both the academia and practice. The Training for Performance System (TPS) or ADDIE (acronym for the five model components) model was developed in 1978 by Richard A. Swanson. Since that time, its use in substantial research and practice has demonstrated its validity. It is now widely utilized in training and development.

The ADDIE training model is a guide or process for the increase and development of employees' knowledge, skills, and abilities so they can perform their jobs effectively. The goal of most organizational leadership is that employees will not only perform their jobs adequately but that they will work effectively and efficiently. By improving the way individuals perform their tasks and jobs, the effectiveness of the organization as a whole will also improve. The table below (Table 2.1) outlines the five primary phases of the model.

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Table 2.1 ADDIE Model

| <i>Primary Phases</i> | <i>Description</i> |
|-----------------------|---|
| Analyze | Identify the performance requirements of the organization, group, and/or individual. Focus on those things that can be improved through training. Propose a training program based on the analysis. Document the expertise required to do specific tasks. |
| Design | Create and/or acquire general and specific strategies for people to develop the knowledge, skills, and abilities. Design and plan the training program and lessons. |
| Develop | Develop and/or obtain training materials for the participants and instructor. Pilot test the training program. |
| Implement | Manage training programs. Deliver training to employees. |
| Evaluate | Determine and evaluate training effectiveness. Report training effectiveness to stakeholders. |

Source: Swanson, R. A. (1996) xxiv

The following chapters will discuss each of these phases in detail.

- Chapter 3 – Analysis
- Chapter 4 – Design
- Chapter 5 – Development
- Chapter 6 – Implementation
- Chapter 7 – Evaluation

Information will be presented so that readers will have the general tools to design and implement effective training programs. The bibliography consists of books that will provide more detail and assistance in this pursuit.

General Training Strategies and Tips

I have worked in training and development for many years and have developed a set of training strategies and tips that are important to remember throughout the training process.

1. ***Always take time for an analysis.*** If you do not take time to analyze the overall organizational needs, job tasks, and specific tasks—over 50% of the training delivered will be ineffective, unnecessary, or a waste of time.
2. ***Design the evaluation during the design and development phases of the training process.*** Evaluation measures must be designed before the training is presented. If you do not measure training effectiveness then you will not know if it is a waste of time and resources or if it is actually accomplishing training goals.
3. ***Training should be developed by someone who understands adult learning principles.*** An individual who knows the training content well is not necessarily qualified to design training. An employee who understands training design and adult learning should work with content experts to design training programs and lessons. This employee does not need to have a degree or be a health educator. It does, however, need to be an employee who has studied and has had some experience in effective training programs.
4. ***Obtain the support of the health directors and supervisors.*** Administration should be educated as to the process and importance of effective training. Time to design, develop, and deliver training should be allowed and supported by administration.
5. ***There are lots of choices.*** Remember that you have many options for the design of training programs. A classroom lecture is only one method and may not be the most effective. Be creative and cautious so the training can be developed most effectively.

6. *The fastest and easiest training methods may be least effective in the short- and long-term.*

Sometimes the easiest method may be to stand up in front of a group and talk about something. Research has shown that a majority of the information presented using lecture-only training is not remembered and utilized. Taking the time to incorporate practice sessions, examples, simulations, and such may take more time but may yield better results.

7. *If your first task or assignment in a training project is at the "development" phase of the training process, beware!* If you are assigned to begin developing training without an analysis and design phase, you need to realize that your efforts may not be effective. This is a constant problem in businesses today and millions of dollars are wasted on training developed with inappropriate content, delivery methods, and training techniques.

8. *Keep a "system's view" of the project.* If you cannot explain or visualize how the training lesson or program is going to help employees and the organization perform better...be careful. Do not provide training just to provide training! Only provide training that will make a difference.

Note: Appendix C includes major categories of behavior considered improper or unethical for training and development professionals. These include typical responses that professionals may give and link these to the improper behaviors. This chapter has presented information on the purposes of training and development, the knowledge and skills of effective trainers, the types of training and teaching techniques available, training outputs, and research-based truths. Finally, it

introduced the model that will provide the framework for the chapters to follow.

Endnotes:

- ⁱ Wexley, K. N. & Latham, G. P. (2002). *Developing and Training Human Resources in Organizations* (3rd ed.). Upper Saddle River, NJ: Prentice Hall.
- ⁱⁱ Wexley & Latham (2002).
- ⁱⁱⁱ Jacobs, R. L. & Jones, M. J. (1995). *Structured On-the-Job Training: Unleashing Employee Expertise in the Workplace*. San Francisco: Berrett-Koehler.
- ^{iv} Wexley & Latham (2002).
- ^v Jacobs, R. L. & Jones, M. J. (1995). *Structured On-the-Job Training: Unleashing Employee Expertise in the Workplace*. San Francisco: Berrett-Koehler.
- ^{vi} "Use a Coach to go from A to B" (2002). *Financial Management (CIMA)*, 42(2/5).
- ^{vii} Wexley & Latham (2002, p. 189).
- ^{viii} Messner, M. (2003). "Building an Effective Mentoring Program." *Strategic Finance*, 84(8), 17-18.
- ^{ix} Altimier, L.B. & Sanders, J. M., (1999). "Cross-training in 3-D." *Nursing Management*, 30(11), 59-63.
- ^x Wexley & Latham (2002, p. 210).
- ^{xi} Jacobs & Jones (1995).
- ^{xii} Denisi, A. S., & Griffin, R. W. (2001). *Human Resource Management*. Boston: Houghton Mifflin Company.
- ^{xiii} Wexley & Latham (2002).
- ^{xiv} Carroll, Paine, & Ivancevich, "The Relative Effectiveness of Training Methods."
- ^{xv} Mosier, J. N. & Tammara, S. G., (1994). "Videoconference Used Among Geographically Dispersed Work Groups: A Field Investigation of Usage Patterns and User Preferences." *Journal of Organizational Computing & Electronic Commerce*, 4(4), 343-366.
- ^{xvi} Wexley & Latham, (2002).
- ^{xvii} McMurrer, Van Buren, & Woodwell, "Making the Commitment."
- ^{xviii} Wexley & Latham (2002, p. 218-19).
- ^{xix} Ibid.
- ^{xx} Kramlinger, T. & Huberty, T. (1990, December). "Behaviorism versus Humanism." *Training & Development Journal*.
- ^{xxi} Holton III, E. F. (1996). "The Flawed Four-Level Evaluation Model." *Human Resource Development Quarterly*, 7(1), p. 5-21.
- ^{xxii} Jacobs & Jones (1995).
- ^{xxiii} Swanson, R. A. (1996). *Training for Performance System Field Handbook*. St. Paul: Swanson & Associates.
- ^{xxiv} Swanson (1996).

Chapter 3

Analysis

The first step in the training and development process is to perform an analysis (also referred to as a “needs assessment”). This is a key step in effective training yet it is often either forgotten or done very poorly. This chapter will present information needed to perform an analysis that will lead to effective and efficient training design and development. The questions to be answered in this chapter include:

1. What is a training analysis and why do you need to perform them?
2. How do you prepare a training and development proposal?
3. What are the primary methods to collect the information (data) needed to design a training program?
4. Why and how do you develop a task inventory?
5. How do you develop a training job description?
6. How do you analyze specific tasks from the task inventory?
7. How do you organize and prioritize data gathered from the analysis phase?

Introduction to Training Analysis

The first phase of the training model presented at the end of Chapter 2 is **Analysis**. Millions of dollars every year are wasted on the development and implementation of training programs because of a lack of thorough analysis. The primary reason for this waste is that many managers, supervisor, and organizational leaders actually “guess” the topics that may be applicable for employee training. A manager may say “I think that we should

train everyone in the clinic on recognizing suspicious behavior of potential terrorists because this is important information to know”. The real questions become, “Is this an important topic, who should participate in training, and how should the training be designed?” None of these questions can be accurately answered without a solid analysis.

Table 3.1 ADDIE Model - Analyzeⁱ

| <i>Primary Phases</i> | <i>Description Steps within the Phases</i> |
|-----------------------|---|
| Analyze | Identify the performance requirements of the organization, group, and/or individual. Focus on those things that can be improved through training. Propose a training program based on the analysis. Document the expertise required to do specific tasks. |

A training and development analysis should be performed prior to all other training phases. The primary reasons for the analysis phase include the following:

- Analysis will ensure that all training meets the organization’s needs and objectives.
- Analysis will provide the information required to link the training programs to improvement in employee and organizational performance.
- Analysis will make certain that training programs are developed only on job-related knowledge and skills.
- Analysis will provide the information necessary to design and develop focused and applicable training content.



- Analysis will provide the information necessary to prepare evaluation tools and systems to be used after the training is complete.
- Analysis will help you understand which topics are considered “training” and which are considered “development” or “education” (see Chapter 1). This will help determine the priority of training topics.

Training and Development Proposal

To help add focus and direction to programs, many training specialists find it useful to put together a short training and development proposal (TDP). If you choose to do this, there are five steps in creating the proposal. ⁱⁱ

1. Determine the initial purpose.
2. Determine the focus.
3. Determine the measures.
4. Determine the needs.
5. Write the proposal.

Determining the Initial Purpose

First, you need to articulate the original purpose of the project. This may need to be adjusted after the analysis phase but it is important to start out with some direction.

Second, document the indicators of current problems. How do you know that training is needed?

Third, explain whether training is needed because of a 1) present problem, 2) improvements that need to be made

to the present situation, or 3) future requirements. This will help you determine priorities in training. If there are **present problems**, then immediate training may be needed. With future requirements you may have more time for development.

Fourth, it is important to determine if the training program is needed at the organizational level, a process level (work flow), or at an individual level (specific job-related duties).

Now you put together the information on these elements and write a 1 paragraph purpose. For example:

The purpose of this training program is to teach our public health nurses to administer the smallpox vaccine and to teach smallpox vaccination clinic operations to clinic staff. This is necessary in order to implement the federally mandated smallpox pre-event vaccination program in the health district. The purpose of this program is to vaccinate teams of frontline healthcare workers prior to a smallpox outbreak. Evidence indicates that transmission of the disease could be reduced by 50% if frontline healthcare workers who come into contact with smallpox patients are vaccinated. Since routine vaccinations ceased 30 years ago and most of the target audience does not have experience with this vaccine, a training program is necessary. To complicate matters, this vaccine is administered very differently than any other vaccine, and due to the voluntary nature and potential adverse reactions to the vaccine, the clinic process includes a large amount of patient education, in-depth medical history, as well as legal forms. This training will include individual instruction in how to administer the vaccine, as well as the processes of implementing a vaccination clinic.

Determining the Focus

It is also important to understand what the general focus of the potential training should be. Because training can focus on such a variety of issues, the following are a few questions that may help in defining your focus: ⁱⁱⁱ

- Does the employee have the skills and knowledge to perform?

3 Analysis

- Does the employee have the experience to perform?
- Is the employee motivated to perform?
- Does the employee have the mental, physical, and emotional capacity to perform?
- Are there obstacles (procedures, processes) that restrict effective performance?
- Are the goals or vision of the workers the same as management?
- Are the organizational processes supportive of training employees?
- Does the organization have policies, culture, and the reward systems to support the desired employee performance?
- Does the organization have established training policies and resources?

This section also addresses a performance gap. This means that you discuss what is currently being done, what needs to be done, and the difference between the two. An example paragraph describing the training and development focus is the following:

At this time, our clinic staff of 15 has the capacity to learn and implement this program, as they conduct vaccination clinics for other diseases and have an understanding of vaccination clinic operations. However, they feel pressed for time and fear that other services to the public will be interrupted. The Local Nursing Director and two other clinic staff have recently participated in a train the trainer session in how to administer the vaccine, adverse reactions, and clinic operations. They are available to teach these components of the course. The focus of this training will be to cross-train all staff in the following areas; 1) vaccine administration, 2) recognition and treatment of adverse events, 3) patient education, 4) vaccine storage & handling, and 5) clinic operations and processes.

Determining the Measures

Next you need to figure out ways in which you can measure the results or outputs. How do you know where the performance is poor, average, or exceptional? The three most common ways to do this is by time, quantity, or quality.

1. *Time*: If time is important in the determination of whether or not an individual's performance is good or not, then time should be a measurement tool. If it is, this is important to know up front so that the element of speed is designed into any training program. For example, if a busy highway is being closed down because of a chemical spill, environment health worker may need to make thorough evaluations of threat but may also need to receive training on how to do this efficiently.



2. *Quantity*: Quantity measures the exact amount or number of outcomes (such as products or services). Units are typically very easy to define and chart. For example, in a bioterrorism threat, the state microbiology lab should be able to handle a certain number of tests.
3. *Quality*: Quality features can be measured and estimated in value. There should be characteristics of services that meet certain specifications. For example, tests in the microbiology lab should meet 90% accuracy standards on the first check.

With this information, a measurement paragraph could be written. For example:

Although our five nurses will be the only staff who will administer the vaccine in a pre-event situation, the first goal is to train all 15 clinic staff in vaccine administration in order to be better prepared for an outbreak. Competency in vaccine delivery will be demonstrated during the training and repeated every 6 months. Competencies in patient education, vaccine storage and handling, and clinic operations and processes will be demonstrated during the training in a role-play situation, and will be tested upon completion of the training. Competency will also be evaluated by the clinic manager during the implementation of the actual program. Corrective training will then be administered as needed.

Determining the Needs

It is also important to understand what level of training would need to be analyzed and designed. Where are the needs? Training levels include 1) understand, 2) operate, 3) troubleshoot, 4) improve, and 5) invent. For example, a training designed to understand the purpose of collecting samples would be designed differently than a training designed to operate or actually do the sample collection. In addition, if an employee needs to be able to troubleshoot, training should be designed to reflect these needs. For example:

The primary needs for adequate implementation of the smallpox vaccination program in our health district is to cross-train all clinic staff in the following areas; 1) vaccine administration, 2) recognition and treatment of adverse events, 3) patient education, 4) vaccine storage & handling, and 5) clinic operations and processes.

Write the Proposal

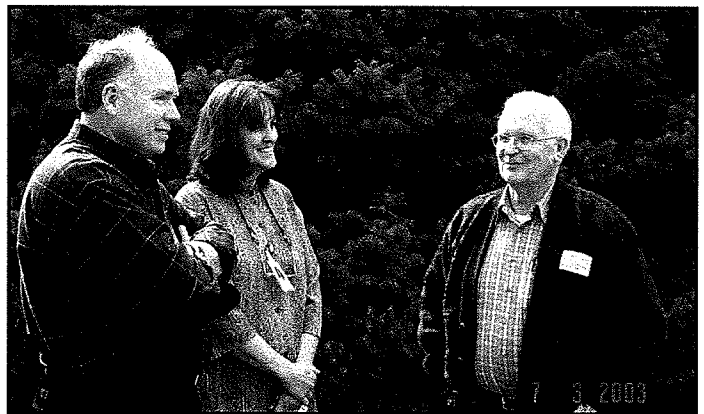
Now you can combine the sections just discussed into one document. At the end you should include some initial training and development recommendations. For example:

First, it is recommended that a full task inventory be located or created for both the public health nurses and other clinic staff. Second, tasks specifically related to the above concerns will then be separated and analyzed separately in detail. Third, a training program should be designed and developed on the tasks specifically related to this concern. Fourth, within the training program, individual lessons should be designed to meet the training needs. Along with this, evaluation measures at all levels should be created. When appropriate, pre-tests should be used before the training is implemented.

Finally, you need to briefly address the expected benefits from the training program. For example:

The primary benefit is that the local health department clinic will be prepared to implement the smallpox vaccination program. Secondly, since this and effective and efficient training will be prepared, it can be utilized as a model for the surrounding health districts. Task inventories can also be used to analyze other duties in this position. In addition, it can be used for future recruiting, compensation, and to design effective performance management systems for public health clinic staff. Nurses will feel empowered and more confident in responding to a smallpox outbreak and assist health departments in meeting federal and state requirements.

A one-page example of a final proposal is included in Appendix D. This document should be short, easy to read, and understandable. It should also clearly convince readers that the training program is important, essential, and is worth the time and effort. The proposal will also serve as a guide and focus the remainder of the training process. The bibliography includes additional resources for developing proposals.



Data Collection Methods

Before jumping into the design and development phases of the training process it is important to begin with an analysis. The goal of training programs should be to improve the performance of employees. Training programs should be designed specifically to match the needs and expectations of what you would like the employee to know and do. In order to accurately accomplish this, specific job duties must be analyzed. From data collection you can obtain a variety of information. This information is important in preparing a job task list, creating a job task description, and making a list of problems or weaknesses that currently exist.

3 Analysis

The four primary data collection methods include:

1. Interviews
2. Questionnaires
3. Observations
4. Organization records

I usually use a combination of interviews, observations, and records for analysis.

Interviewing

Interviewing is an effective tool for collecting information for a task inventory. It can be performed face-to-face, by groups, written/email, and over the telephone. In asking questions, you can use a structured, unstructured, or semi-structured interview. During a structured interview you would have a prepared list of questions arranged in a certain order. All individuals interviewed are asked the same basic and follow-up questions. During an unstructured interview the interviewer and interviewee talk without any preset format so different people may be asked entirely different questions. The semi-structured interview combines the two and is the most common method.

There are many uses for interviews.^{iv} An interview can help establish rapport and learn about plans and projects. It can be effective in getting the details of work protocol and to get workers' viewpoints about procedures and processes. You can find out about difficulties, get opinions about organization, morale, supervision, and follow up on critical incidents.

To be an effective interviewer, individuals must have the ability to develop questions that will get meaningful answers, ask open-ended questions spontaneously, create an atmosphere of trust, and take complete and accurate notes without infusing one's own ideas. It is important to remember, however, that interviewing can be expensive and time consuming. The interviewer can sometimes create bias. Results depend on skillful use of questions and it sometimes takes practice to do well.

Questionnaires

When using a questionnaire for collecting information you typically have a set of written items that require the employee to respond in some way. There are two types of questionnaires: open response and forced response. With open response questionnaires the items are open-ended questions. With forced response questionnaires the items require some specific type of response (such as yes or no).

You need to be careful when deciding whether or not to use a questionnaire. Creating an effective instrument is very time consuming. I would not suggest this method unless you need to somehow cover large populations of people and/or you have issues with geographical distance. Questionnaires do work well if you are gathering descriptive data or trying to measure attitudes, opinions, values, and what individuals do. However, to do it well you must know exactly what type of information is required, develop items that will get appropriate responses, do data analysis, and lay out the questionnaire in a clear, readable way.



There are many advantages to using a questionnaire. After collection, it's relatively easy to analyze. They are easy to use with large samples and are fairly inexpensive and objective. This method is less time consuming than some other methods. On the other hand, you have no personal contact with participants. Because the questions are predetermined, it may miss important issues. It is difficult to write good items and people may misread items and make inappropriate responses.

Observation

When using observation to collect information about a specific position, you actually watch the work behavior of people doing the job. There are two types of observation: overt and covert. During overt observation you tell the worker what is going on and the worker knows what you are looking for. You may even ask the worker to do certain things in order to help with the observation. This type of observation is frequently combined with an interview.

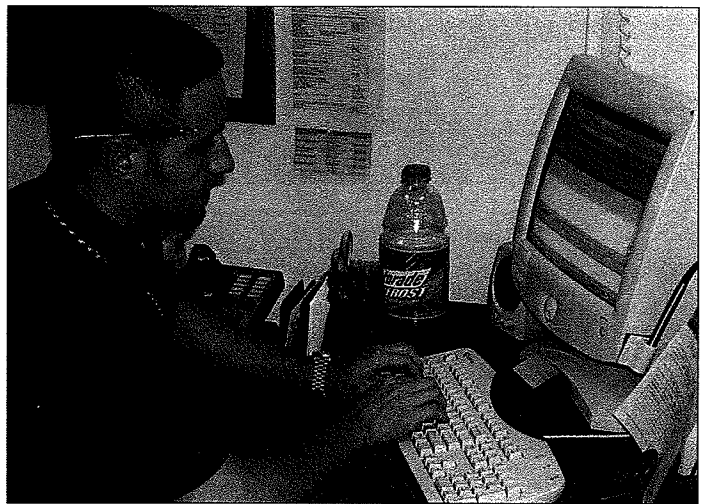
During a covert observation you are in plain view but the worker is unaware of what actually is being observed. You normally do not communicate with the worker or interfere in any way with the work. This helps you watch the natural work method.

Advantages of this technique are that you can collect information firsthand while the work is actually being done. You may be able to identify unexpected problems, find new and better methods, and discover tasks that have not been documented before. On the other hand, sometimes it is difficult to interpret what is observed (especially if it involved the worker thinking through a problem). In addition, the worker may do different tasks at different times during the day (if you only observe for an hour you may miss tasks). It can also be time consuming and biased if not done well. Follow-up is usually required to help interpret the observations.

Observation can be used to analyze work methods, flow, and patterns, find problems, analyze conditions, support

other analysis methods, and more. Some of the key skills that observers must have include the ability to:

- find the best people and times to observe,
- keep out of the worker's way,
- be open to new ways of doing the work,
- spot when the work is being done correctly and incorrectly, and
- take accurate notes or remember the important things seen.



Organizational Records

When using this method to collect information, you classify, study, and interpret the meaning of information found in paperwork/records. During data collection you gather and study cost, time, and productivity information (if applicable). In addition, you will need to gather and study past job descriptions, task inventories, lists, and paperwork the employee currently uses throughout his or her workday.

Some basic skills needed to use this method include the ability to group information into categories, find relationships between pieces of information, select and use analysis techniques, display and interpret results, and explain their meaning. This method is effective because it reduces biases, identifies baselines, and is usually easy to understand. However, record location can be difficult and may have been biased when originally drafted.

3 Analysis

Overall, most trainers/analysts utilize multiple methods of data collection. The end results of this analysis are pages of notes and data. This information is central to building a task inventory, job description, and training design and development.

Developing a Task Inventory

The next step is to develop a task inventory from the data collected. This inventory is essential for designing and developing an effective training program and can also be used as a tool for performance management/appraisal, compensation and benefits, and recruiting and selection activities. A task inventory is a list of all of the tasks that are required to be performed well in a particular position. If you do not understand exactly what an individual is supposed to know and do, how can training be developed effectively and efficiently?

Four criteria are recommended for creating the task inventory: ^v

1. **Comprehensive.** Everything a worker does must fit into one of the tasks on the inventory.
2. **Intermediate.** Each task is written at an intermediate level which means it is not too general but it does not include a step-by-step procedure or provide too much detail.
3. **Discrete.** Each task is distinguishable from the others and has a definite beginning and end. Tasks should not overlap.
4. **Active.** Each task statement contains an action verb (usually at the beginning) and the object of the action. The statements are sentences.

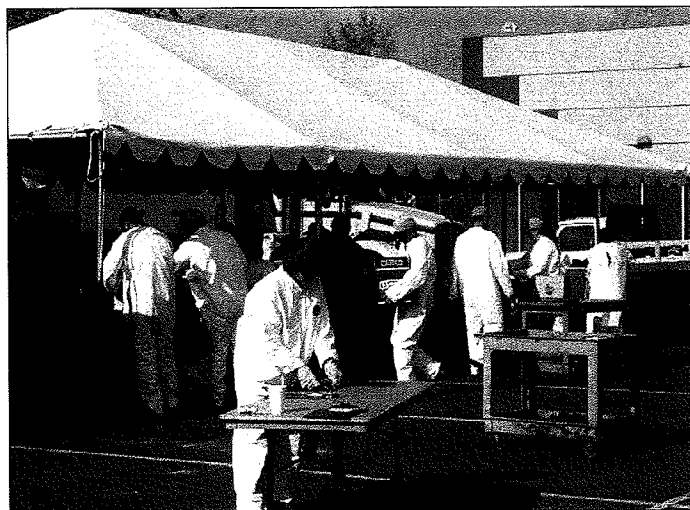
These tasks can then be categorized into one of the following: ^{vi}

- **Procedures:** tasks that have specific steps.
- **Systems:** tasks related to understanding and trouble-shooting information-based or hardware based systems.
- **Knowledge:** tasks that relate to understanding and working with people.

Task inventory statements are short and right to the point. Some examples of tasks are as follows:

- Write repair order.
- Prepare site.
- Collect appropriate tools.
- Unpack equipment.
- Return customer calls.
- Check for proper press fit.
- Perform adjustments for press fit.
- Prepare site.
- Recommend spare parts.
- Troubleshoot mechanical problems.
- Troubleshoot electrical problems.
- Troubleshoot pneumatic problems.
- Communicate service work.
- Override operation.
- Replace muffler.

Appendix E includes detailed examples of task inventories for two positions: Epidemiologist and Laboratory workers.



Developing a Job Description

Developing a task-related job description is fairly simple after the task inventory is completed. A job description should range from between 25 and 75 words. It should be written in complete sentences (usually 1 paragraph). It is a concise combination of words that comprises the overall job by labeling 2 to 7 job functions or clusters of work tasks. When you read the description it should tell you generally what this position is all about. For example:

The registered dietitian is responsible for marketing and selling nutrition services and programs. He or she provides new member consultations, nutritional assessments, follow-up appointments, and nutritional computer analysis. The dietitian also prepares and presents co-worker training programs, and member and corporate seminars, booths, support groups, and services. Other duties include attending meetings, writing newsletter articles, providing educational materials for members and staff, and being a nutritional resource for all departments.

Examples of job descriptions from the two examples previously explained are also included in Appendix E.



Analyzing Specific Tasks

Thus far you have collected enough information to begin designing the overall training program; however, you have not gathered the information required to actually teach employees specific tasks. You may not need to analyze all tasks. This determination needs to be made based on the number of individuals hired for a certain position, the problems with specific tasks, the need for specific documentation of tasks, the predicted turnover in positions, the resources available to develop training materials, and more.

At this point you may need to go back to subject matter experts (SME) and interview or observe them doing a specific task for which you want to design a detailed training lesson/program. During this step, all of the information is gathered that is necessary to design and develop training. As you may remember, there are 3 primary categories of tasks: procedural, systems, and

knowledge; each is analyzed differently. (For detailed explanations and directions on methods of task analysis, refer to analysis books in the bibliography).

Analyzing a Procedural Task

If a documented problem is the incorrect computer input of patient information by the nursing staff, then you would want to find out who performs that task the very best. Interview that individual and observe him or her do the task. Take lots of notes (step-by-step) until you fully understand how to perform the task successfully.

Next, produce a step-by-step list. The statements should be short and begin with action words. The list should contain general steps (1, 2, 3,) and then more specific steps under most of these (a, b, c). This document should include diagrams, photos, and or pictures if applicable. After this step is completed, all of the data needed to begin training design and development has been gathered. An example of a procedural task analysis is found in Appendix F.

Always do pilot tests for each procedure. One of the best ways to do this is to have an employee who has never performed this task, follow the written directions and attempt to do it (of course this may not be wise if the task has safety issues).

One of the best ways I use to collect procedural data for technical tasks is to go into the work area with a digital camera and a small tape recorder to gather the information. I then transcribe, reword, and format it into the step-by-step procedure. Next, I have the sheet reviewed by the SME and sometimes need to slightly alter steps. Finally, I generally go back to the actual piece of equipment and (using the list) talk through the whole process while pointing to each knob, button, switch, or piece of paper (whatever the task dictates). On one project (the repair of printing equipment), my SME was the primary service/repair specialist. After a few weeks of documenting and editing, the SME began to describe and verbalize steps in nearly the exact format needed for a final copy. By this time I had learned the basic technical terms and our joint analysis time became extremely productive and efficient.

3 Analysis

Analyzing a Systems Task

When a system is analyzed, data collection methods are again used. Some systems tasks are very complex and time consuming. It is wise to determine if this analysis will assist in short and long-term improvement at the organizational, process, or individual levels. If so, the costs of analysis may well be worth it. Systems analysis includes the following major steps ^{vii}:

1. *Determine systems description and flow.* First, the systems task must be named and then the details of the system must be described. Next, you should make a systems flow chart which is a simplified diagram of the overall work system. This includes naming the inputs, processes, and outputs.
2. *Identify systems parts and purposes.* Next, outline the parts and purposes of the system.
3. *Analyze the process.* Through analysis of the process you can see the connections between the pieces and the overall system. You can also see the variables involved in the process (such as people, materials, equipment, methods, and/or environment), and their attributes connections, and contributions. Often this step helps identify problems that need to be changed (such as disconnects, unwanted variation and overlaps).
4. *Troubleshooting analysis.* Based on the previous information acquired, troubleshooting options to these problems are organized and analyzed.

As was explained earlier, this is quite complex but sometimes necessary and very effective if done correctly.

Analyzing a Knowledge Task

After deciding to analyze a knowledge task, choose one of three paths:

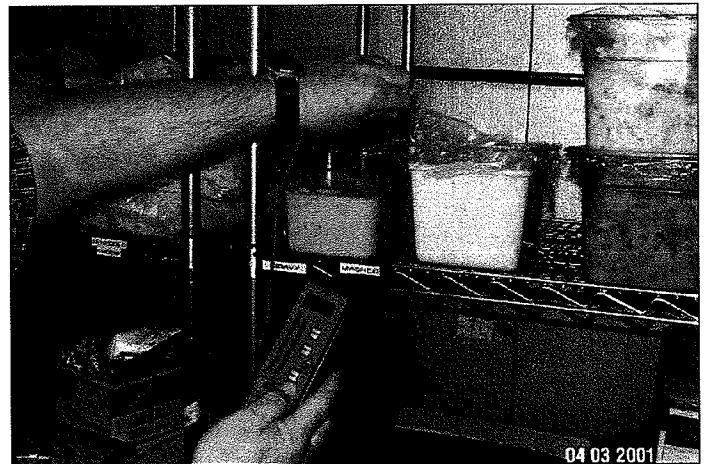
1. *Workplace behavior:* You can interview and observe SME in your workplace. Again, these are individuals who are very good at performing the task at hand. For example, if you would like to develop training on the ways to respond and react to anxious, rude, or angry clients who visit the clinic, you would col-

lect information from the employee who is known for doing this very well. Through interviews and observation you would document her/his techniques and methods.

2. *Outside experts:* You can also research articles and talk to outside experts to gather information to use to document best practices and techniques in performing the task. There are many outside resources prepared by government, educational, and non-profit agencies that are related to health issues. For example, to develop training related to smallpox, the CDC has already put together literature to use as the foundation for training development.

3. *Combination:* A combination of the two seems to work the best for me, depending on the task.

When this analysis is finished, all information needed for the rest of the training process should have been collected.



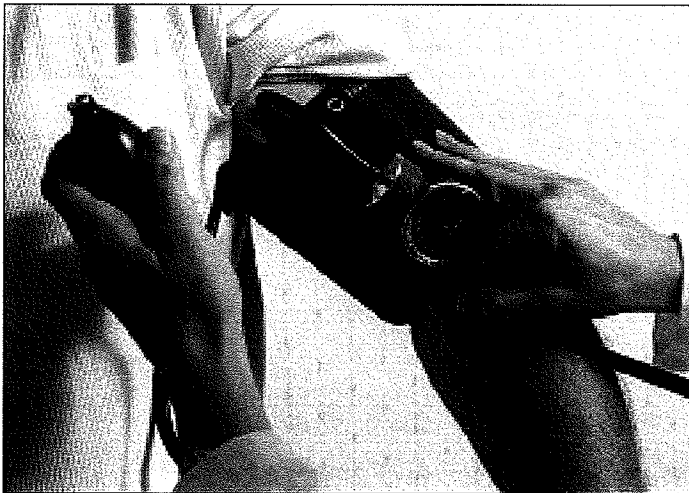
Organization

The processes I have described should help you keep your information and data organized. After completion of the task inventory do not discard any notes or information gathered. Most will be useful when the individual tasks are being analyzed. It may be helpful to type all handwritten notes and keep all materials in a tabbed notebook. Some trainers find it more helpful to

use file folders (personal preference). It is also important to keep identification and date notes at the top of the first page of each of the forms (see various examples in the Appendices).

Document all sources of information gathered. It is helpful to keep each analyzed task in a separate computer file during the analysis phase. All files should be kept in one computer folder. Files should be named according to tasks so they can be recovered easily.

All of the data gathered, analyzed, and synthesized will be prioritized during the design phase of the training process. This design plan will help determine the impor-



tance of each task (in training design and development) and how the information will be utilized (will this task be taught through written materials, face-to-face presentation, Internet training, a job aide, and such).

Conclusion

All of the initial questions posed in this chapter have been answered. Analysis is a very detailed process but has been shown to be the foundation of effective training and development programs. This chapter has briefly outlined the steps found in the entire book *Analysis for Improving Performance: Tools for Diagnosing Organizations*

& *Documenting Workplace Expertise* by Richard A. Swanson. This is one of the most utilized analysis methods used by educated and effective trainers and consultants. Because this chapter provides just the basics, I would recommend this book for those who will be doing a great deal of analysis work for training and other performance improving interventions.

This analysis process may seem cumbersome but a strong analysis will save a great deal of time down the road. It has also been shown to save organizations money. After this analysis it will be clear as to what is considered *training*, what is considered *development*, and what is considered *education*. It is easier to prioritize what is important and what is not, and what is essential and what is just nice. After completing the analysis phase, you are now ready to move into training and development design.

Endnotes:

- i Swanson, R. A. (1996). *Training for Performance System Field Handbook*. St. Paul: Swanson & Associates.
- ii Swanson, R. A. (1996). *Analysis for Improving Performance: Tools for Diagnosing Organizations & Documenting Workplace Expertise*. San Francisco: Berrett-Koehler.
- iii Ibid.
- iv Ibid.
- v Ibid.
- vi Ibid.
- vii Ibid.

Chapter 4

Training Design

After the analysis of the position and task(s) are completed, the training can be designed. Some trainers like to initially begin this phase near the end of analysis and then finalize the design after the analysis is completed.

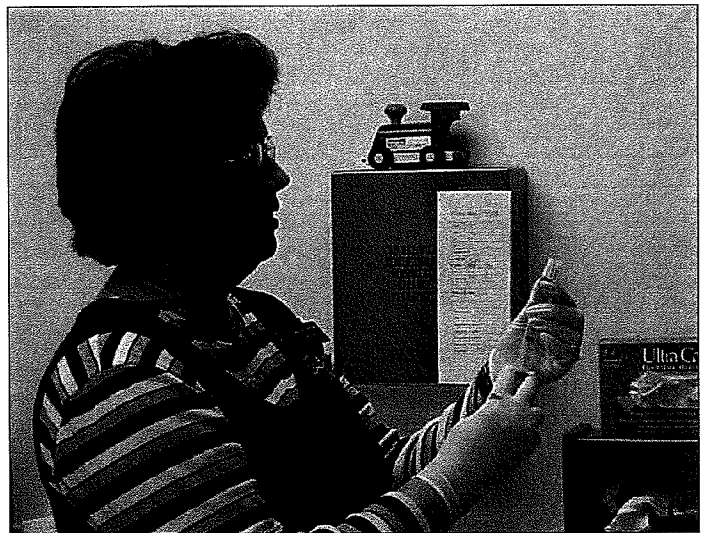
This chapter will address the following questions:

1. What are the important components of designing a training program?
2. In effective design, how can you use program design constraints (such as trainee characteristics, development, or implementation constraints) to assist in developing effective design?
3. Can effective training programs rely on one delivery mechanism?
4. What are the important variables to consider in lesson design?
5. What trainee capacities are important to consider in the design and development process?
6. What are some examples of instructional sequencing for effective training?
7. How do you write a lesson outline and plan?
8. How do you design training for optimal transfer of learning?

In Campbell's ⁱ well-known training design work, he reviewed important components to be addressed prior to training design.

Recognize, describe, or restate the operative goals of the organization in which the training and development effort is taking place. Are the training goals consistent with the organization's goals? If not, why not, and what do we do about the conflict? Next comes a consideration of whether the jobs in question are designed so that their performance outputs are directly relevant for the critical goals of the organization. If they are not, devoting

training to such functions is of little value...We must ask which of the relevant performance factors constitute the highest priority training needs. Where is the performance efficient? What performance components will become critical in the future? (p. 188-189)



Introduction to Training Design

The ADDIE model was presented at the end of Chapter 2. The second primary phase of this model is design. ⁱⁱ

Table 4.1 Training Model

| Primary Phases | Description Steps within the Phases |
|----------------|---|
| Design | Create and/or acquire general and specific strategies for people to develop the knowledge, skills, and abilities. Design and plan the training program and lessons. |

It is important to understand the differences between a training program design, a lesson design, and a lesson plan. A training program typically consists of outlining a set of individual lessons on related topics. For example, some trainers may develop one training program for a new employee working as a receptionist. This training program may include specific lessons on the computer programs, greeting clients, paperwork procedures, telephone systems, and such. This one training program may include all of the training lessons (see task inventory) needed for the receptionist to begin working and then to improve initial skills. This program may be designed to be completed over a 2-day period or over a few months.

Another type of training program is one that focuses on an important piece of the position (but not all). For example, a community nurse does many tasks but only specific tasks are focused around bioterrorism. A bioterrorism training program can be designed for nurses specific to the preparedness and response to bioterrorism. This program would include many lessons. It may be a 1-2 day program or it may be designed to have one lesson per week for two months. At the end of the two months, the training program would then be completed. At this time it is expected that nurses would be prepared and able to respond appropriately in a bioterrorism event.



A lesson *design* is focused around outlining the teaching of one specific task or cluster of topics within the training *program*. For example, teaching a new receptionist about the computer. Lessons may widely vary in length. A two-hour training block may include one lesson or even a number of shorter lessons. The lesson design helps the trainer consider the details and constraints of the specific lesson. Finally, the lesson plan actually brings all of the information (including the analysis) and puts the detailed content together into a plan.

Program Design

The first step in the design phase is to create a general program design. To do this you must do the following ⁱⁱⁱ:

1. ***Review the analysis that serves as a basis of the training program.*** This will include reviewing your:
 - a. Performance proposal
 - b. Job description
 - c. Task inventory
 - d. Task analyses (procedural, systems, and knowledge)
2. ***Document program factors that will influence design decisions:***
 - a. Total number of trainees
 - b. Number per group
 - c. Educational level of trainees
 - d. Prior related training of trainees
 - e. Work experience of trainees
 - f. Time to develop
 - g. Available personnel competencies
 - h. Media
 - i. Budget
 - j. Training location
 - k. Training deliverer
 - l. Training dates

4 Training Design

New trainers often ask how understanding these factors can help design more effective training. The following paragraphs will provide some clarifying examples.

First, the reasons for considering trainee characteristics are fairly obvious. Designing a training program for 500 trainees is much different than for 5. Designing practice segments are far different for a group of 40 trainees as compared with 10. Certain types of techniques only work with smaller groups and in certain types of rooms or training environments. In addition, some of the worst learning experiences occur when training starts with material too elementary or too difficult for the group of trainees. Second, understanding development constraints is also essential in effective training design. The time available to develop the training can determine modes or types of training that can be used. If you have use of a secretary, an Internet designer, or an experienced presenter—more can be accomplished and more complex modes of training can be utilized. Of course, the available budget is of utmost importance in designing, developing, and implementing training.

Finally, implementation constraints can also dictate training program design. The physical facility and environment of the training can determine what kinds of techniques can be designed into the training. If the individual performing the training is a skilled worker (not a trainer) then the development needs to be carefully and formally constructed so that it will guide the trainer through effective adult learning techniques. If the training needs to be conducted during a two-day session, it should be designed differently than a training program with lessons taught for a two-hour block once a week for two months. Consideration of these constraints in the design phase can not only save time and money for the organization but can also facilitate effective training for employees.

3. Design an outline of the program segments (lesson titles). This includes a list of the specific lesson titles and estimated time of each segment. At this point, you may also want to make notes about what kind of training would be considered appropriate. A review of Chapter 2 would be helpful to consider on-site and off-site programs such as:

- On-the-Job Training (OJT)
- Apprenticeship Training
- Job Aids
- Coaching
- Mentoring
- Technology-based Training (TBT) (such as CD-ROM, Internet, Video)
- Job Rotation
- Instructor-based Programs
- Audiovisual Techniques
- Videoconferencing
- Simulations

So, can effective training programs rely on only one delivery mechanism (method or technique)? It is very rare that training can be effective while using only one method or technique. Remember that a training program consists of multiple lessons. Because trainees learn in many different ways (see Kolb's Learning Styles) it is important to design and develop training utilizing a variety of techniques. Within a primarily instructor-led training program—lecture, video, small-group assignments, job aids, and a final simulation can be designed. A technology-based training can include text, video segments, interactive quizzes, a case study, job aids, and online interaction and mentoring from a trainer.

An example of a **Training Program Design** form can be found in Appendix G.

Lesson Design

After the overall program is designed, it is now time to begin designing and planning the actual lesson material. Before beginning the actual lesson plan it is important to address and consider certain design elements. These



include: training objectives; trainee readiness and capabilities; instructional structure and sequence; learning methods and conditions; rate, pieces, and practice; evaluation, reinforcement and rewards; special concerns; and preparations (see Appendix G for form). ^{iv}

1. Training Objectives

Instructors and students often dislike the term “learning objectives”. For training programs however, it makes sense to create behavioral objectives. Make a list of what the trainee should be able to know and do when he or she completes training. If you do not do this before developing and delivering training, how can you ensure the training will do what it is supposed to do. Design the training to meet the objectives.

Objectives should be stated in concrete, observable terms, and they should include an indication of the conditions under which the individual should be able to perform them as well as the level of proficiency the individual should be able to demonstrate. ^v

Some examples of good learning objectives include

- At the end of the *diagnosing smallpox* training segment, the trainee will be able to explain the emergency response procedures.
- The trainee will perform a smallpox diagnose correctly in the community emergency response simulation.

2. Trainee Readiness & Capabilities

Important questions to consider include: How much do trainees know about this topic? Where should we start the content? What should we do if trainees are at different levels of understanding the material to be covered? ^{vi}

Some abilities that have been found to be related with trainees’ capacity to learn ^{vii} include:

- Reading level, educational level, educational preparation, aptitude
- General intelligence
- Cognitive ability
- Ability to visualize dimensions and patterns
- Ability to perceive changes in direction and position
- Mechanical knowledge
- Conscientious, dependable, conforming, well socialized
- Analytical learning strategy and learning anxiety

Researchers ^{viii} have found that high ability students benefit more from low-structure, high-complexity programs, while low ability students benefit from high-structure, low-complexity programs.

3. Structure and Sequence.

How can you teach this content in the best way? What is the best instructional sequence? ^{ix} The Whole-Part-Whole (WPW) learning model is important to consider in all elements of the design process (see Chapter 1). Remember that in all training, it is important to begin and end with an overall description of what trainees will and have learned (whole).

Training must be sequenced so that it makes sense to the learner (see details in Chapter 1). Swanson ^x provides examples of sequencing for technical and awareness training.

Technical Training. For technical training, the instructional pattern could include:

4 Training Design

Table 4.2 Technical Lesson Outline

| Whole/Part | Lesson Topics |
|--------------|---|
| First Whole | 1. Overview of work flow 2. Overview of operation |
| Part | 3. Start-up procedure 4. Operation procedure 5. Shutdown procedure 6. Inspection procedure |
| Second Whole | 7. Troubleshooting 8. Practice 9. Integration |

Awareness Training. For awareness training, the instructional pattern could include:

Table 4.3 Awareness Lesson Outline

| Whole/Part | Lesson Topics |
|--------------|---|
| First Whole | 1. Problem condition 2. Consequences and opportunities 3. Desired state |
| Part | 4. Personal actions |
| Second Whole | 5. Commitment to change |

One of the most common types of training in public health is what is called **on-the-job training**. This training is either unstructured or structured. Unstructured training is common but often ineffective for many reasons. Structured training has proven to be much more effective in the short- and long-term. Jacobs and Jones^{xi} developed an outline for structured on-the-job technical and awareness training that includes the five primary steps:

1. Prepare the trainee
2. Present the training
3. Require a response
4. Provide feedback
5. Evaluate performance

Appendix H provides a detailed procedure in structuring both on-the-job awareness and technical training. This is a very specific and effective method for teaching on-the-job skills in a structured situation.

4. Learning Methods and Conditions.

Deciding what method to use for teaching training content is important. First you must consider what learning methods are appropriate. Next you must decide what learning delivery should be used to implement the learning event. These decisions should be based on the information presented in Chapters 1 and 2.^{xii}

The conditions of learning that appear to have the highest priority are^{xiii}

- Stimulating learner interest;
- Using learning events that require productive behavior;
- Providing appropriate feedback; and
- Providing opportunities for practice under conditions that promote the transfer of learning from the training into the actual job.

Training design should comprise methods that support or are consistent with the various processes (cognitive, physical, or psychomotor) that lead to mastery of the knowledge or skill.^{xiv} The training method should also provide the opportunity for the learner to develop skills needed for the actual task (including problem-solving, decision-making, and critical thinking).

5. Rate, Pieces & Practice

What is the expected rate of learning? How much time will it take to have the trainees learn and practice? How big should each instructional piece be? What will the practice consist of? How much should be required?^{xv}

Trainees can learn only a limited amount of information at one time. Research shows that this capacity is about seven meaningful pieces of information (plus or minus two pieces). If the

amount of information presented at one time exceeds this limit, trainees may have difficulty in learning and remembering it. ^{xvi} For example, a list of 15 steps could be grouped into 3 major chunks of 5 steps each. Trainees remember the names of the 3 groupings as 1 chunk and the 5 steps in each group as other chunks.

For example, a procedure for doing this might be :

- Decide if there are more than 7 points, ideas, steps, concepts, etc. in the lesson; if yes...
- Divide them into logical groups of seven or less.
- Make up a name for each grouping.
- First present the list of groups.
- Next, take the first group name and list the steps, points, concepts, etc. under it.
- Then do the same for the second group.
- Repeat until all groups have been covered.

This information is helpful in both the design and development phases. If trainees are to learn, it is not enough for the materials to explain the information. Trainees must have the opportunity to respond or practice. Training materials can do this by asking questions or providing exercises. This responding serves to increase learning and gives trainees confidence in their learning. ^{xviii}

Some ways to build frequent and relevant practice into training include ^{xix} :

- Inserting opportunities for practice at least at the end of every chunk of knowledge and skill taught;
- Providing many exercises or questions that call for the trainee to practice a skill (not just one or two);
- Spreading the opportunities to practice a skill throughout the entire lesson;
- Writing the exercises and questions trainees must answer; and
- Encouraging trainees to practice on their own.

6. *Evaluation, Reinforcement, & Rewards.*

Design the overall evaluation of training effects



or results. You should consider whether the training program led to proficiency on the behavioral objectives? If not, was it because there was inappropriate or missing content, a poor choice of learning events, trainees who did not have the prerequisites, or inadequate or inappropriate learning conditions? ^{xx} What will be used to evaluate trainees? How will this information reach the trainee? Evaluating outcomes will be discussed in detail in Chapter 7.

In addition, consider what the reinforcements and rewards will be and when they will be applied. It is important to figure out what motivates the trainees. Both intrinsic and extrinsic rewards should be considered.

7. *Special Concerns*

It is also important to consider and list all special concerns. This may include issues related to the development, timing of the delivery, various constraints, and safety concerns.

8. *Preparations*

What needs to be done to prepare for the training (such as equipment, copies, materials, name tags, food, reservations, and room set-up)? It works well in this section to make a check list of items that need to be completed to prepare for the training delivery.

4 Training Design

Lesson Outline and Plan

Next, it is helpful to make a short outline of the lesson. This outline should include the topics, notes (goals, methods, and reminders), estimated time, and whether a segment is a **whole** or **part**. At this time you may want to consider training types (off-site and on-site) and also training techniques (see Chapter 2). It may be focused on instructional patterns such as the ones just presented. The outline should also be created with the previously mentioned design variables in mind (see Appendix G).

The final design step is to document the lesson details. This is the time to review and utilize task analysis notes. At this time it is appropriate to expand the lesson outline and create main points, details of training (content and methods) and estimated time for each section. ^{xxi} Professional trainers have different methods of writing lesson details. Whatever the method it must be clear and organized. It must be in enough detail that other employees can pick up the lesson plans and materials and be able to provide nearly the same training experience for participants.

When writing the details of the lessons, it is imperative that the design variables (previously mentioned) are considered. This is also the time to review and apply the adult learning theories and principles such as those discussed in Chapter 1.

- Andragogy
- General Learning Principles
- Whole-Part-Whole Learning Model
- Kolb's Learning Styles
- Margin in Life
- Other

During the design phase, you may want to decide and document what and when to use visual aids, videos, PowerPoint slides, and such. The development of these aids is done in the next training phase. In the design phase, basic plans for the evaluation techniques should be documented (see Chapter 7).

Transfer of Learning

One of the most complex training tasks is to design the training program and lessons so that the material learned during training is taken back to the workplace environment and used on the job. The training goal is for positive transfer. This means that the knowledge or skills from the training are used on the job and job performance is improved. Wesley and Latham ^{xxii} outlined and discussed ways to optimize the possibility of getting this positive transfer. The major points of their discussion are outlined in the following tables (next page):

It is also important to understand some of the organizational factors that often affect the transfer of learning and training. These include such factors as: ^{xxiii}

- Pay and promotion
- Environmental constraints (tools, equipment, materials, supplies, assistance, services, budget, and so forth)
- Peer group
- Supervisory support and attitude
- Organizational culture (learning environment, attitudes, climate)

The bibliography includes some resources that provide details about these factors and how to address them.

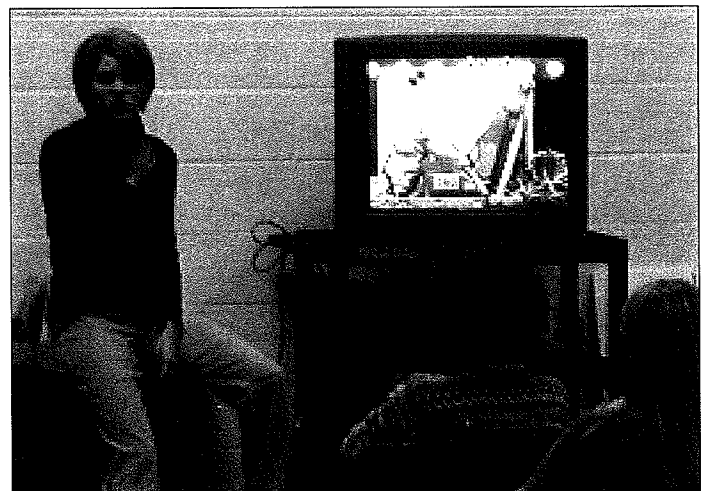


Table 4.3 Strategies for Maximizing Retention and Transfer

Before Training:

1. Conduct a needs analysis that includes multiple constituencies.
2. Seek out supervisory support for training.
3. Inform the trainees regarding the nature of the training.
4. Assign tasks prior to the training session.
5. Maximize organizational commitment and eliminate cynicism.

During Training:

1. Maximize the similarity between the training situation and the job situation.
2. Provide as much experience as possible with the task being taught.
3. Have the trainees practice their newly learned skills in actual situations that they will encounter back on their jobs.
4. Provide for a variety of examples when teaching concepts or skills.
5. Label or identify important features of a task.
6. Make sure that general principles are understood before expecting much transfer.
7. Provide trainees with the knowledge, skills, and feelings of self-efficacy to self-regulate their own behaviors back on their jobs.
8. Design the training content so that the trainees can see its applicability.
9. Use questions to guide the trainee's attention.

After Training:

1. Give trainees an opportunity to practice the trained tasks on the job.
2. Have the trainer collaborate with each of the trainees in using the application plan principle.
3. Make certain that the trained behaviors and ideas are rewarded in the job situation.
4. Use the relapse prevention strategy, which relies heavily on behavioral self-management.

Conclusion

This chapter has addressed the foundational topics related to training and development design. A primary training design model was presented with details about each component. Examples for each component were provided in the appendices. Program design constraints were also reviewed. A short discussion on the reliance of one or multiple delivery mechanisms was included. Next, important design variables were introduced and examples were provided on how to use them in actual design projects. Examples of instructional sequences for various types of training were addressed. Some general guidelines for writing lesson outlines and plans were included. Finally, strategies for creating and implementing effective transfer of learning were briefly outlined.

It is important to remember that training and development design cannot be effectively accomplished without a thorough analysis as presented in Chapter 3. In addition, design is essential to the development and delivery of pertinent and strategically aligned training programs and lessons. It is clear that effective design is a primary step in producing the kind of training program that meets organizational objectives and meets the needs of the individual employees.

Endnotes:

- ⁱ Campbell J. P. (1988). Training design for performance improvement. In J. P. Campbell & R. J. Campbell (Eds.), *Productivity in organizations: New perspectives from industrial and organizational psychology* (pp. 177-215). San Francisco: Jossey-Bass.
- ⁱⁱ Swanson, R. A. (1996). *Training for Performance System Field Handbook*. St. Paul: Swanson & Associates.
- ⁱⁱⁱ Ibid.
- ^{iv} Ibid.
- ^v Campbell (1988, p. 194).
- ^{vi} Swanson (1996).
- ^{vii} Wexley, K. N. & Latham, G. P. (2002, p. 77). *Developing and Training Human Resources in Organizations* (3rd ed.). Upper Saddle River, NJ: Prentice Hall.
- ^{viii} Snow, R. E., & Lohman, D. F. (1984). "Toward a Theory of Cognitive Aptitude for Learning from Instruction". *Journal of Educational Psychology*, 76 (3), 347-376.
- ^{ix} Swanson (1996).

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- x Swanson (1996).
- xi Jacobs, R. L. & Jones, M. J. (1995). Structured On-the-Job Training: Unleashing Employee Expertise in the Workplace. San Francisco: Berrett-Koehler.
- xii Campbell (1988, p. 189).
- xiii Ibid, p. 204.
- xiv Ibid, p. 198.
- xv Swanson (1996).
- xvi Silber, K. & Steinicki, M. (1987). Writing training materials. In R. Craig (Ed.), Training and development handbook (3rd ed). (pp. 263-285). New York: McGraw Hill (p. 272).
- xvii Ibid, p. 273.
- xviii Ibid, p. 277.
- xix Ibid, p. 178.
- xx Campbell (1988, p. 206).
- xxi Swanson (1996).
- xxii Wesley & Latham (2002, p. 108-113).
- xxiii Ibid.

Chapter 5

Development

Many of the theories, concepts, and tools that are foundational for the development of the actual training program and materials have been discussed in previous chapters. Trainers are encouraged to review these chapters when entering the development phase of the training process. This chapter will not review most of this information, but it will add more structure and depth to what has already been discussed.

Now, after analysis and design phases are completed, it is time to fully develop the training lessons and materials. To understand the process, the following questions will be addressed:

1. What are the components in the development of a training program?
2. What are the levels and options for possible lesson development?
3. What questions are important to consider in evaluating existing training materials?
4. What are the reasons for, types, modes of delivery, common mistakes, and basic guidelines in developing visual aids for training?
5. What are the general steps in developing training videos?
6. What are some general recommendations for developing computer-based content for training programs?
7. How do you develop and produce effective written training materials?
8. What are some ways to add humor to the training?
9. What are different ways to pilot test training programs and why is this important?

Introduction to the Development of Training

The ADDIE training model was presented at the end of Chapter 2. The third primary phase of this model is the *development* of training.¹

Table 5.1 Training Model

| Primary Phases | Description Steps within the Phases |
|-----------------------|--|
| Develop | Develop and/or obtain training materials for the participants and instructor. Pilot test the training program. |

Examples of training materials and content that could be **developed** for various types of training include:

- Trainer manuals
- Trainee manuals
- Trainer notes
- Overhead transparencies or slides
- PowerPoint or other presentation files
- Paper copies of slides
- Handouts
- Job aids
- Video presentations
- Website for downloading materials and discussion groups (support)
- Website or CD for full training program
- Object lessons or demonstrations
- Case studies or scenarios
- Evaluation tools (exams, quizzes, surveys, training progress charts)

5 Development

- Visual aids (posters, pictures, charts)
- Games and activities
- Supporting articles and other copyrighted materials
- Training marketing materials
- Administrative tools
- Bibliography of additional assistance sources on the topic



During the *design* phase you should have already determined what materials need to be developed. During the *development* phase, you actually create or gather all of the materials needed to present the training. Because of the numerous training types (see list just provided), this chapter will only address the development of the most common.

Material Development Levels

Researchers ⁱⁱ have found that most training is conducted using very few materials. Training and development lessons can be greatly enhanced through the use of one of the levels (2-5) of development provided in Table 5.2. Typically, on-the-job training involves very few materials but can still be effective if there are only one or two trainees. However, most types of training should include supplemental materials to support the training delivery. At this point in the training process you should have already outlined the development needs.

Table 5.2 Levels of Development ⁱⁱⁱ

| Level | Components |
|-------|---|
| 1 | <ul style="list-style-type: none"> • No planned instructor materials • No planned participant materials |
| 2 | <ul style="list-style-type: none"> • Overhead transparencies or slides • Paper copies of the transparencies or slides for the participants |
| 3 | <ul style="list-style-type: none"> • Overhead transparencies or slides • Trainees print materials in the form of a structured trainee notebook (including paper copies of the transparencies or slides) |
| 4 | <ul style="list-style-type: none"> • Overhead transparencies or slides • Trainees print materials in the form of a structured trainee notebook (including paper copies of the transparencies or slides) • Workplace objects and artifacts from the tasks to be learned • Dynamic or interactive support materials such as video, interactive video, in-basket case, and simulation. |
| 5 | <ul style="list-style-type: none"> • Materials are designed to the level that they can mediate the development of knowledge and expertise without the need of a trainer. |

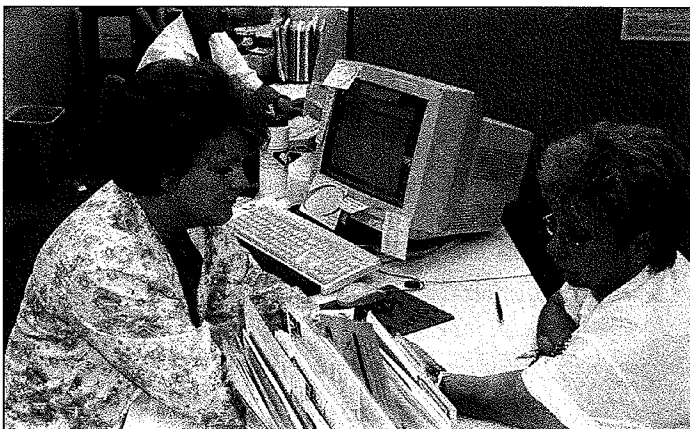
Adapted from Swanson (1996), p. 22.

Typically with a lower training budget, even though a higher level of development is still needed or desired, it is not always feasible. However, it is important to remember that slides, handouts, objects, and visual aids can be produced quickly and inexpensively. Without this development, training may be ineffective. In addition, the overall costs may be higher if employees are not trained to perform their jobs in the most effective and efficient manner.

Evaluating Existing Training Materials

In the public health arena there are many training materials (such as videos, books, and articles) that have already been created. Before using these it is important to evaluate the materials. In deciding whether or not to include existing materials into your training program, you should ask the following questions:

1. Does the material cover item(s) on the task inventory and in the lesson design?
2. Are these materials important to the designed lesson content?
3. Are the materials professional in their content, development, and delivery?
4. Are the materials appropriate in length?
5. Are the materials current in content and production?
6. Do the materials cover content that is considered training, development, or education (see Chapter 1)? With this in mind, what priority should the materials take in the overall training program?
7. Will the source be considered reliable and credible to the trainees?
8. Can I produce better materials that are more appropriate in a reasonable amount of time?
9. Is the cost of the materials worth what they can deliver to the trainees?
10. Will the general, specific, and comprehensive training objectives be met through use of these materials?



Developing Visual Aids

Visuals can be powerful tools for training and teaching. There are a number of reasons you may want to consider for using visual aids.^{iv} Visual aids can:

- make ideas clear and understandable;
- make a training more interesting;
- help trainees remember facts and details;
- make long, complicated explanations unnecessary;
- help prove a point;
- add to your credibility; and
- enhance communication with people who speak English as a second language.

Types of Visual Aids

There are various types of visual aids that you can consider:

1. Graphs
2. Charts
3. Drawings
4. Photographs
5. Videotape and DVD
6. Computer and Internet multimedia
7. Objects
8. Models
9. Yourself and volunteers (demonstrations, costumes)

Modes of Delivery

There are a variety of modes you can use to present these types of visual aids:

- Electronic presentation: These include text slides (PowerPoint), photos, drawings, animation, and video clips.
- Marker boards (also called white or dry-erase boards) and chalkboards
- Posters
- Flip charts
- Handouts
- Overhead transparencies
- Slides
- Television and video projectors

5 Development

Common Mistakes

Many trainers make mistakes when they develop visual aides for their lessons. The following nine are some of the most common: ^v

1. **Too much text:** Too much text is difficult for students. It is best to include limited text on each visual and, if further elaboration needs to be given, provide it verbally.
2. **Too many words per line:** Make sure the text is large enough for trainees to easily read. A general recommendation is that you should have no more than seven words per line.
3. **Too many lines per slide:** No more than seven lines per slide is recommended. Three to five lines are best.
4. **Overuse of all-capital letters:** All capital letters can be difficult to read. Occasional words in capital letters can provide some emphasis (headings, titles) but general use is strongly discouraged.
5. **Too-tight spacing:** It is best to avoid jamming words together. A general rule is to leave the space of the letter "n" between words and two "n's" between lines (one on top of the other).
6. **Excessive artwork:** Too much artwork or too many pictures can distract from the message. Some white space should remain. Empty space around the text and pictures bring focus to the important content.
7. **Too many colors:** Color adds richness to the visual but too many colors becomes distracting. Generally, for text, select one main color (black always works well) and use a second color only if you want to emphasis a word, heading, number, and such. Neon colors are typically distracting and hard to see clearly.
8. **Too many different typefaces:** It works best to use one or two styles of typefaces. Too many distract from the content and purpose.

9. **Use of italics and underlining for emphasis:** On visuals it works best to **bold** for emphasis instead of using italics and underlining.

Many trainers use PowerPoint presentations. The tips previously presented will assist you as you develop your slides.^{vi} It is especially important to remember that wordy text slides tend to make trainees tired and bored. Using text sparingly will emphasis the key points more effectively. Trainers are sometimes tempted to overuse special effects. Use special effects only to help clarify points. Some trainers put so much time into their PowerPoint presentations that they lose sight of their training and program objectives. It is important to prioritize training development efforts. Finally, some trainers use PowerPoint when it is not necessary. Trainees often enjoy a different mode of delivery (such as a white board or poster).

Basic Guidelines

Some guidelines for using visual aides include the following: ^{vii}

- Choose visuals that truly support your training lesson;
- Appeal to as many senses as possible;
- Prepare and practice in advance;
- Do not use too many visuals;
- Make visuals simple and clear;
- Design the visual so the back row can clearly see it;
- Unless trainees need to use them for note taking, do not circulate visual aids among the participants (let them pick up copies after);
- Remove physical barriers (such as making sure everyone can see);
- Explain your visual aids;
- Choose the best time to show the visuals;
- Do not let the visuals distract from your content;
- Do not talk to the visual aid;
- Whenever possible, reveal one part or item at a time; and
- Plan how you will handle problems.

Some general tips for the minimum size of letter and numbers see Table 5.3 and 5.4.

Table 5.3 Minimum Size of Letters/Numbers for Posters, Boards, and Flip Charts ^{viii}

| <i>Trainees</i> | <i>Size</i> |
|-----------------|-------------------|
| 10-15 | At least 1 " high |
| 15-35 | At least 2 " high |
| 35-100 | At least 4" high |
| Auditorium | Giant screen |

Table 5.4 Minimum Size of Letters/Numbers for Overheads or Slides ^{ix}

| <i>Trainees</i> | <i>Size</i> |
|-----------------|------------------------|
| 10-15 | At least 33-point type |
| 15-35 | At least 48-point type |
| 35-100 | At least 72-point type |
| Auditorium | Giant screen |

Developing Training Videos

The development of an effective training video is quite complex. If you are considering this training mode, unless you are experienced you will probably need professional assistance. Generally, there are ten primary steps in video development: ^x

1. Outline the content and essential information that can be effectively transmitted through the video.
2. For effective trainee retention, determine the maximum length of the video.
3. To produce a view of the desired content, create a flowchart of the video events, topics, and segments.
4. Determine the budget.
5. Identify and enlist outside assistance (vendors).
6. Develop a storyboard showing video content.
7. Write the script.
8. Develop and execute the shooting schedule and audio recording.
9. Edit the video footage.
10. Create the final product.



Developing Computer-Based Content

Many organizations are interested in developing training programs via the computer and internet. Unless you have training and experience in instructional and computer design, effective training development is difficult. There are entire books written on the details on this type of development (see Chapter 2 for advantages and disadvantages). The bibliography includes a list of recommended books.

Although I hesitate, I will provide a few tips for good web pages that have both good content and an interesting design. ^{xi}

- "Orient the surfing reader to the organization.
- Offer an overview of the content of your page, with links to take readers to the parts that interest them.
- Make it clear what readers will get if they click on a link.
- Keep graphics small.
- Provide visual variety.
- Unify multiple pages with a small banner, graphic, or label.
- On each page, provide a link to the home page, the name and e-mail address of the person who maintains the page, and the date when the page was last revised."

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Developing Training Materials

Many training and development programs are designed to include some level of written materials. In the public health arena there are many training materials already available (of various professional and quality levels). The following principles can be used to create and revise materials or to review and choose appropriate existing materials.

The principles will focus on a specific training lesson but can be applied to the contents and formatting of all training materials (including technology-based training). There should always be three primary sections of a training lesson: introduction, explanation, and summary. The following sections will address key principles applicable to each of these sections.

Introduction

According to Silber and Steinicki ^{xii}, the principles to be considered and followed in writing and developing a good introduction section include: attention/motivation, influence/credibility, objectives, context/familiarity, and mental set. The following are key points from their article on writing training materials.

1. **Attention/motivation:** Trainees can learn only when they are paying attention. Before the training begins, trainees should clearly understand why (and be convinced) they should learn and participate. Questions to consider include: Does the "What's In It for Me?" explain how the lesson content
 - Is important to the trainees, job, and organization?
 - Will make the trainees' job easier, better, more pleasant, more important, and/or more interesting?
 - Will make the trainees happier, more productive, more intelligent, better qualified, and/or rewarded by others?
2. **Influence/credibility.** Trainees want to learn from an individual who they believe can teach them well. If they believe they know more than the trainer, they will not learn. The professionalism of training materials can also influence trainees and add credibility.

- Are the credentials of the author stated?
- Is the research or professional practice on which the training is based cited?
- Is the material based on the most current information available?
- Is reference made to new ideas or ideas trainees may have heard elsewhere?
- Is the packaging and printing visually appealing to the trainees?

3. **Objectives.** As already discussed in Chapter 4, objectives must be carefully designed and clearly stated in the introduction of the training.

- Are the objectives staged overtly?
- Are they stated in terms of skills the trainees will gain?
- Are they stated in behavioral terms?

4. **Context/familiarity.** Research has shown that trainees learn best when the new information can be somehow linked or related to something they already know or have experienced. Trainees constantly search their minds for related skills, experiences, and/or knowledge.
 - Is the information being taught linked or related to what trainees already know?
 - Are the trainees told which existing links or "hooks" to use?
 - Is previously learned, related content "recalled"?
 - Do explanations use already known concepts and vocabulary as "building blocks"?



5. **Mental set.** As I have already discussed in the WPW learning model, it is important that trainees understand the big picture of what they will be learning and how each part will fit together. At the beginning of the training, the outline of the training should be briefly and succinctly presented. This should include visuals (numbered topic outline, table, flowchart, or lesson map) to assist the trainee in remembering where the training is going and where it has gone. Questions to consider include:
- Is the information to be learned presented in a brief and succinct, yet accurate, form?
 - Are the organization, sequence, format, and unique features of the lesson explained?

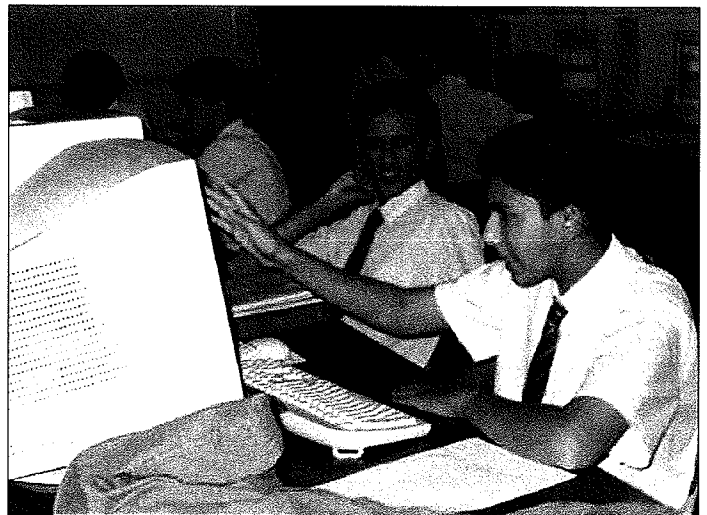
Explanation

The principles to be considered and followed in writing and developing a good explanation section include: chunking, illustrations, intra-organizers, relevant examples, text layout, request relevant practice and feedback.

6. **Chunking.** The details of chunking have already been discussed in Chapter 4. Some important questions include:
- Are large amounts of information broken down into “chunks” of seven pieces per chunk?
 - Does each “chunk” have a label naming it?
 - Are the names of all the chunks presented first, followed by a breakdown of each chunk in sequence?
7. **Illustrations.** Trainees typically learn better from training materials that combine text and illustrations. Illustrations can help make concepts more understandable. They can help trainees visualize ideas, concepts, things, sizes, steps, details, parts, shapes, and distances.
- Are illustrations combined with captions or explanations to aid understanding?
 - Are illustrations sequenced from the less detailed, overview type, to more detailed, specific point type?
 - Are line drawings, not pictures, used to show details of objects?
 - Are color, highlighting, or arrows used to emphasize or separate key items?

- Are a maximum of seven elements shown in each illustration?

8. **Intra-organizers.** Intra-organizers include such things as headings, sub-headings, transition phrases, and other items that help organize the document so that it flows and makes sense to the readers. These perform the same function as the mental set principle just discussed. They help guide trainees through the materials and training and prepare them for upcoming topics. Intra-organizers, however, help trainees keep track of where they are at in the training and how it fits in relation to the concepts before and after.
- Are the logical subsections of the lesson identified and highlighted by:
 - Subheadings?
 - Course maps?
 - Short phrases?
 - Tables?



9. **Relevant examples.** It is well-known that individuals learn ideas better when they are presented with examples. Examples can illustrate the ideas or concepts with real world objects, situations, or descriptions. In developing training, questions to consider include:
- Are there at least two examples of each concept or idea used to show the variety of forms the concept can take?
 - Do the examples contain all the important characteristics that make the idea unique?

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- Are there at least two nonexamples (examples that show what the concept is not) of each idea paired with the examples to show the limits of the idea or concept?
- Are the examples and nonexamples relevant to the trainees?
- Are the examples and nonexamples sequenced from easiest to most difficult?

10. **Text layout.** It is typically easier for trainees to learn when the training and material format is well organized and understandable. The following questions provide tips for effective text layout:

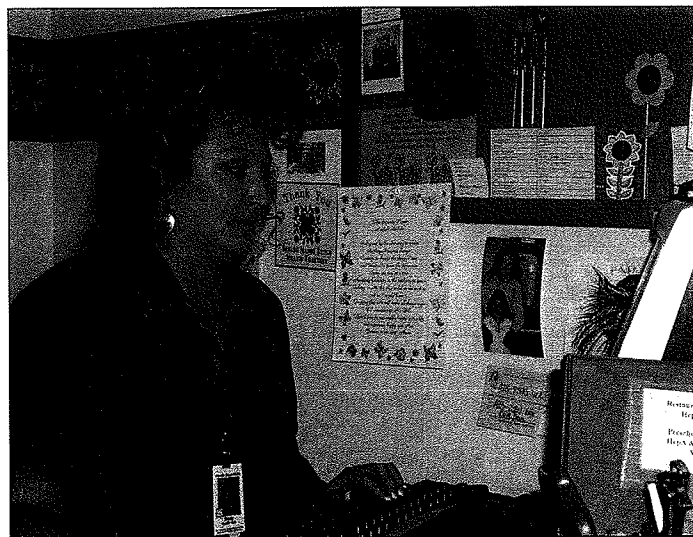
- Is there lots of white space on the page?
- Are matrices, tables, and flowcharts used to organize procedures or contrast concepts?
- Are different typefaces and type styles used to highlight key points?
- Are words or key phrases used as marginal notes or subheadings to facilitate rapid scanning, reading, and retrieval?
- Are lists of items (except for sequential procedures) "bulleted?"

11. **Frequent relevant practice.** In the learning process, it is not enough for the information to be explained. Trainees must have the chance to respond or practice the information and skills. In general, the more the skills are practiced, the better it is learned. In addition, practicing skills brings confidence especially when feedback is provided. Frequent practice is important and applicable or relevant practice is key to the transfer of skills or knowledge learned during training—into the workplace.

- Are there exercises or questions at the end of each chunk of content presented?
- Does the practice match both the training objective and on-the-job skill application?
- Are there at least two practices for a skill?
- Are the practices for each skill spread out through the lesson, not bunched in one place?

12. **Feedback.** Trainees need to know if their responses or practice is good or correct. If it is incorrect, the response can be immediately changed. Trainees like to know the quality of their learning and it motivates them to continue learning. Some questions to assist in designing effective feedback include

- Does the feedback come immediately after the response?
- Is the correct answer given, and why it is correct explained?
- Are statements designed to praise and encourage the trainee used?
- (if possible) are likely incorrect answers given, with an explanation of why they are incorrect?
- Are the trainees prevented from seeing the feedback before they respond on their own?



Summary

The principles to be considered and followed in writing and developing a good summary section include: review and memory/reference.

13. **Review.** It is important to review the content of the training just as the WPW Learning Model explained. At the conclusion of the training, segments need to be tied together, reiterated, generalized, and presented in a form that makes the key points stand out. The summary should explain things in a little different way.

- Is all the essential information included and tied together?

- Is the information stated differently?
- Are the key points highlighted?
- Is there an example that extends the application of the information?

14. **Memory/reference.** It is nearly impossible for trainees to remember all of the information presented. They need the following three things to help remind them:

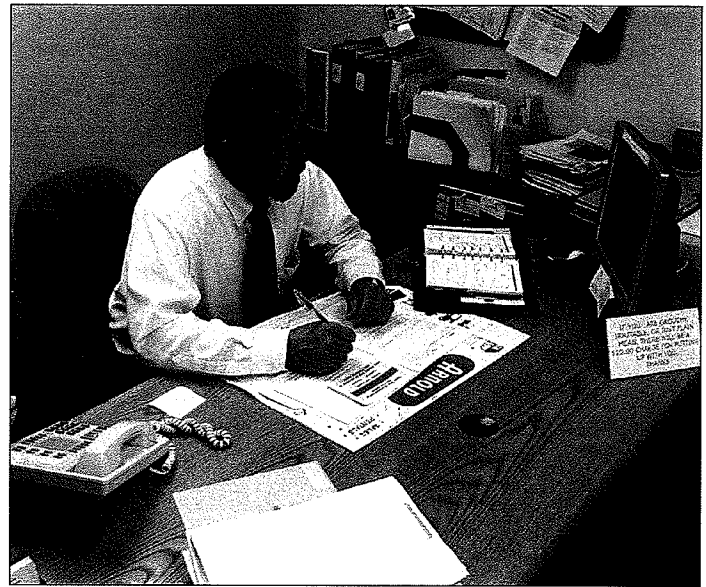
- Are there memory joggers:
 - Key words?
 - Analogies?
 - Mnemonics?
 - Figures?
- Is there a synthesizing practice and test that:
 - Applies all that has been learned?
 - Uses a new problem situation?
- Is there a job aide, in the form of:
 - Checklist?
 - Blank form?
 - Flowchart?
 - Glossary?
 - Table?
 - Reference document?
 - Diagram?
 - Example?

Silber and Steinicki ^{xiii} designed the principles just presented (shortened and edited by the author) to assist trainers in remembering and reviewing information needed to develop training content and materials.

Humor

Appropriate humor can often enrich the training experience and typically takes little time. Some ideas for adding humor include: ^{xiv}

1. **External aids:** use appropriate and related cartoons or pictures
2. **Props:** take attention-getting props that relate to the content and can be used in a demonstration or lesson segment.
3. **Fun facts:** find interesting facts from books, newspapers, internet, and so forth
4. **Other people's materials:** watch what others do and say and write down opening remarks, quotes, and comments



5. **Rehearsal:** it always works best to practice your humorous material before using it in an actual training situation

Pilot Testing

After training content and materials are developed, they must be pilot tested in some form. Most of the time, major or minor adjustments are made to improve. Continuous improvement should be foundational for all training programs. Flexible components should be added so the training can be adjusted for various individuals or situations.

Typically, trainers choose one of these five ways to pilot-test their training programs and lessons: ^{xv}

1. Conduct a full pilot test of the program with a representative sample of participants. You would need to conduct a random sampling of potential trainees to do this.
2. Conduct a full pilot test of the program with a group of available participants. You would use volunteer employees who will need the training.
3. Use the first offering of the program as the pilot test. Make certain the participants are aware of this fact and gain their support in providing improvement information.

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4. Conduct a run through of the program with a selected group of professional colleagues and potential recipients. This does not include presenting the entire training.
5. The trainer/presenter conducts a dry-run by him or herself.

Another option is that separate training lessons or segments can be pilot tested in various settings. In fact, I have found it advantageous to show materials to colleagues and potential trainees for feedback and input before they are even completed. In addition, specific procedural tasks can be pilot tested as already described in Chapter 3.



Overall, some level of pilot test is important in training development. It is important that trainees be given effective training and pilot testing can help ensure that this occurs.

Conclusion

Many concepts and theories that relate to developing training have been addressed in previous chapters. This chapter addressed what is involved in actually

developing a training program. It discussed the components, levels, and options for training development. It outlined important points to consider in evaluating existing training materials. The details regarding development of visual aids and the general steps for developing training videos were explained. Some general recommendations for developing computer-based content for training programs were also given. The details of developing and producing effective written training materials were provided along with the ways to add humor to the training content. Finally, it discussed the different ways and reasons to pilot test training programs and lessons. As explained previously, at the conclusion of this training phase, trainers should be prepared to implement and deliver the training program.

Endnotes:

- ⁱ Swanson, R. A. (1996). Training for Performance System Field Handbook. St. Paul: Swanson & Associates.
- ⁱⁱ Swanson (1996).
- ⁱⁱⁱ Swanson (1996, p. 22).
- ^{iv} Hamilton, G. Public Speaking for College and Career (6th edition). Chapter 9.
- ^v Ibid.
- ^{vi} Ibid.
- ^{vii} Ibid.
- ^{viii} Ibid.
- ^{ix} Ibid.
- ^x Thompson, M. R. (2000). Lights, camera, action: Planning, writing, & producing employee education programs. Professional Safety, 33-39.
- ^{xi} Locker, K. & Kaczmarek, S. K. Business Communication: Building Critical Skills, p. 239
- ^{xii} Silber, K. & Stelnicki, M. (1987). Writing training materials, In R. Craig (Ed.), Training and development handbook (3rd ed.), pp 263-285). New York: McGraw Hill.
- ^{xiii} Ibid.
- ^{xiv} Spaeth, M. (2001). Human as a presentation tool. Risk Management, October, 60.
- ^{xv} Swanson (1996).

Chapter

6

Evaluation

Delivery and Implementation

It is now time to deliver and implement the training program. It is important to remember that, at this point, the training has already been designed and developed. During this phase the training or development activity will be presented or released (in the case of modes such as online or video productions). Some of this chapter provides information most applicable to face-to-face, videoconference, or video training sessions presented to groups of trainees. The final section (implementation) focuses on the individual and group management of the training program. This chapter will address the following questions:

1. What are the primary training delivery concerns and guidelines?
2. What are some tips for effective training delivery?
3. How do you effectively manage individual training programs?
4. What are some specific tools or systems to manage training and development programs effectively?

Introduction to Training Implementation

The fourth phase of the ADDIE training model (see Chapter 2) is the implementation of training (see Table 6.1). As mentioned previously, by this phase of the process the training has been designed and developed. You should know details about the individuals and groups you will be training. In addition, you should know when and where the training sessions will be presented. If the mode of training is videotape or online training, it is now time to make the training available for use.

It is important to remember that this training phase refers to managing the actual training program, not the management of a training department.

NOTE: Even though "evaluation" is the final phase of the training model, it is essential that all of the components of the evaluation are designed and developed before training is delivered.

Table 6.1 Training Model ¹

| Primary Phases | Description |
|----------------|---|
| Implementation | Manage training programs. Deliver training to employees. |

Delivery Concerns and Guidelines

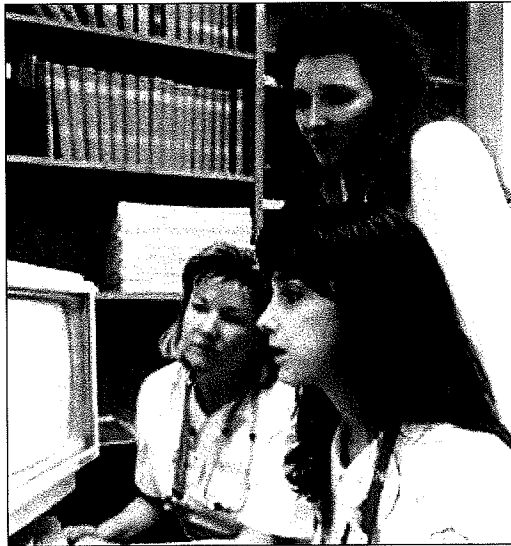
There are a number of delivery concerns or challenges that trainers should consider and address before implementing training. ² The following section includes many of these concerns and presents guidelines and suggestions for each.

The Trainer

Trainers must have confidence and credibility if training sessions are to be effective.

As a result of preparation is well as a lot of performance.
Confidence. Your confidence will increase if you are well prepared. Training is consistently more effective when trainers have a detailed lesson plan and understand the material. Confidence is also increased through practice. Fear is often decreased and confidence gained through use of ice breakers (activities that relax participants and get them involved). Also, addressing and understanding that fear is normal is also helpful. Confronting what makes you afraid and using positive self-talk or relaxation activities before the training are helpful for some trainers. Also, make sure your body language supports your confident impressions. Trainers that fidget or pace before presenting may look nervous and unconfident to trainees. Trainers who establish and maintain eye contact are also seen as more confident.

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Credibility.³ First, your appearance is important in any setting. Dressing effectively and professionally can also raise your credibility with the trainees and also increase your confidence. Second, training experts agree that you should not apologize. You should be prepared and honest about the subject matter so you should not feel that you should apologize about the training session, the content, or your inability to answer a difficult question. Third, you should have the attitude of an expert. To have this attitude you should be well organized and prepared. You should also listen and observe the participants effectively. Credible trainers also feel comfortable in sharing their personal background and experiences.

Preparations

Even if your training content and presentation is well prepared, there are many things that can go wrong with the equipment, materials, and facilities. These problems can quickly decrease the effectiveness of a training session.

Equipment. Expert trainers know how to fully operate all of the equipment they use. In addition, they carry extra bulbs, extension cords, markers, tape, and other applicable backup supplies.⁴ They also bring a back-up of the information they are presenting in another medium (for example, overhead slides for a PowerPoint presentation). I recommend that you are honest with the group if something goes wrong and ask for assistance from trainees if needed. Some examples of equipment you may use include the following:⁵

- Overhead projector
- LCD projector
- Slide projector
- Computer
- Audiocassette recorder
- Television monitor
- VCR
- Video camera
- Video monitor
- Extension cords
- Remote controls
- White board
- Chalk board
- Flip chart
- Easel
- Podium

Materials. You should always have the participant materials (handouts, booklets, pencils) ready and either placed at each trainee's seat or stacked for distribution. One of the worst mistakes I have seen trainers make is to leave the printing of materials to the last minute. Unfortunately, I have seen trainers who are stressed because they have problems like lost computer files, broken copiers, misplaced handouts, or miscommunication with colleague who were to pick up booklets at a closed printer store. Caution should be used with any last minute changes. Backup plans should always be devised. Some examples of supplies or materials you may use include:⁶

- Handouts
- Booklets
- Pencils, pens
- Audio or videotapes
- Computer diskettes
- Blank paper
- Post-it notes
- Flip charts
- Flip chart markers
- Easels
- White board markers
- Chalk
- Attendance lists
- Name cards
- Props



These can be listed on the program and lesson design plans and used in a checklist format to ensure nothing is forgotten.

Facilities. If possible, it works best for the trainer to see a training room ahead of time. It helps to see how the room is laid out. Visualizing where things are located and how to set up tables, chairs, and equipment can be helpful. Expert trainers typically arrive at the training location well in advance to ensure enough time for setup and problem resolution. It is also important to be aware of concerns that may arise with room temperature, distracting back-ground noises, and other things that may effect the trainees listening and attention capabilities. Many of these concerns can be addressed before the training begins.

The Presentation

There are a number of delivery concerns and suggestions that apply to the actual presentation. Many of these can be addressed during the development stage but must be reviewed before delivery for presentation effectiveness. These items include the introduction, notes, asking questions, personal experiences, timing, and the conclusion. In addition, the pitfall of a rambling trainer will also be addressed.

Introduction. Effective trainers rely on many sources for ice-breaker ideas. Through observation and experimentation, you can develop ideas and keep a file of them. If

you develop a great introduction, it works best to memorize it so you can maintain eye contact with trainees. Effective trainers typically greet people as they enter and take time for introductions. This helps to create a relaxed atmosphere which is often more conducive for learning.

Notes. Trainer notes should be brief, legible, and unobtrusive. You may be tempted to read and rely too much on notes that are overly detailed. Experienced trainers can often glance at bold note headings as a guide for presenting. If your notes are difficult to read, your delivery may be more challenging. Notes should be typed in easy-to-read font and size, have space between sections, include bold headings, and possibly utilize colored cues (such as activities, questions, slides) for easy retrieval. It may also be helpful to use cards or visuals as notes.

Finally, it is important to begin the session without looking at your notes.

Asking Questions. Asking concise questions is a great tool for trainers to utilize during a training lesson. If using questions it is important to make them short, concise, and simple. You should also provide enough time for answers. Remember that silence can provide time for the trainees to reflect and seek personal applications of the material. Trainers can make the mistake of moving on too quickly after asking a question. Often this does not allow adequate time for trainee responses.

Personal experiences. Effective trainers often tell personal experiences and also report the experiences of others. You may want to start a collection of pertinent stories and incidents from other people. You can also have participants share their related experiences. Referring to and drawing analogies with familiar incidents or situations can also be effective.

Timing. Effective planning is important for keeping the training lesson well timed. Typically expert trainers plan for too much material but plan and prioritize activities (before hand) so that sections can be easily removed if needed. Effective trainers practice the training material many times so they know where they should be at 15-

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minute intervals. It is important to make sure you have a clock in the training room to glance at without distracting from the training content.

Conclusions. To conclude a training session it is important to be simple and concise in summarizing the contents of the lesson or program. It is best to use the course objectives to do this. Finally, thanking trainees for their time and contributions to the course is always appropriate.

Rambling. Another training pitfall is the tendency some trainers have to ramble. They deliver their message and then continue talking. This tends to increase trainee boredom and resentment for wasted time. It is best to carefully and succinctly deliver the message and then move on to the next point.

Handling Trainees

Encouraging participation, dealing with difficult trainees, obtaining and responding to feedback, and appropriately handling questions are important concerns for trainers who are striving for effectiveness.

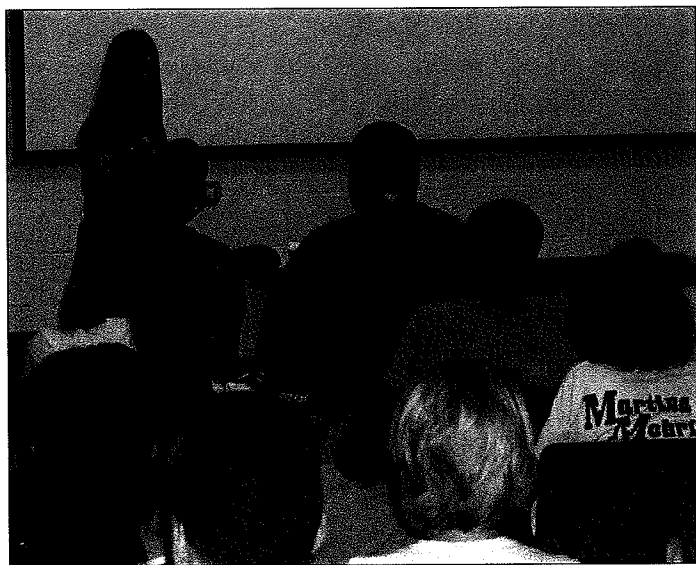
Participation. Training is often more effective if trainees participate. To encourage this you can ask open-ended questions, incorporate questions into the lesson plans, and provide positive feedback when people do participate.⁷ Small group activities (such as dyads, case studies, and role plays), as previously discussed, typically

allow trainees to reduce fear and increase participation. Encouraging participation early in the training will help establish a participative environment for the remaining training period.

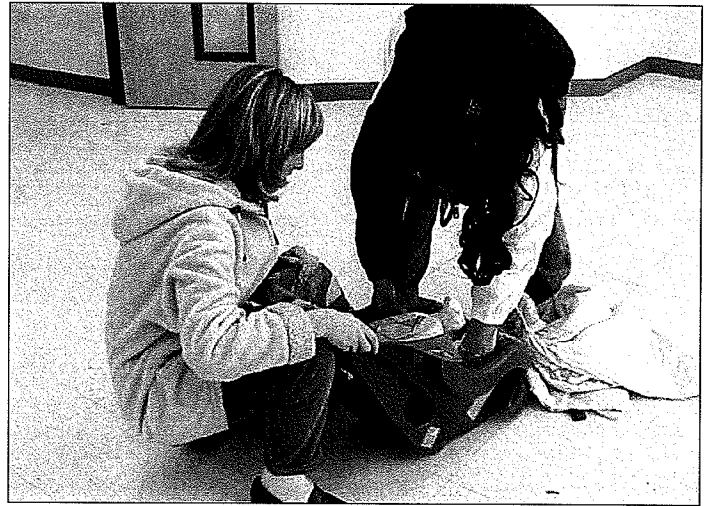
Difficult learners. Effective trainers often use humor in difficult situations. During a break it may be helpful to talk with difficult individuals to determine a problem that appears to be affecting the training. In fact, it may occasionally be appropriate to ask a person to leave. To circumvent dominating behavior you can use nonverbal behavior, such as breaking eye contact or standing with your back to the person and inviting the others to participate. Some trainees may feel uncomfortable participating in large groups. Designing training to include small group activities may encourage participation for those who would not otherwise contribute.

Feedback and adjustments. Effective trainers ask for feedback during and after the training lessons/programs.⁸ They determine the group needs during the design and development phases of the training process. However, there are sometimes slight adjustments in the training content that may need to be made early in the training session after meeting the trainees. Effective trainers watch for signs of boredom and ask trainees (during breaks or the session) how they feel about the training. Slight training redesign can occur during the breaks. It always works well to have a contingency plan and to redesign if necessary. Redesigning training during delivery, even if you are an expert, is risky. Trainers also have the trainee complete forms at the conclusion of the training to help determine if the objectives and their needs were met.

Trainee Questions. Trainers typically handle questions more effectively when they can anticipate them. You can prepare by writing out key questions trainees might have. Paraphrasing (repeating) a trainee's question is important to make certain that everyone has heard and understands the question. Saying "I don't know" is also okay. You can redirect questions you can't answer back to the group. You can also look for an answer during a break. Many successful trainers use four steps in answering a question:⁹



- **Listen.** It is important to listen attentively, maintain eye contact with the questioner, and observe their nonverbal communication signals. Slightly nodding your head or using other nonverbal cues to show the trainee that you are listening to them is also helpful.
- **Determine.** While you are listening you should determine the intent and nature of the question. Paraphrasing the question is often appropriate during this step. This helps ensure the question has been clearly understood.
- **Affirm.** When you begin answering the question it is recommended that you affirm or recognize the trainee. Some examples include: "You make a good point", "That is a great question" or "I'm glad you asked that question".
- **Respond.** Next you should respond appropriately to the question. Often this requires just a short, concise response while other times it might be appropriate to use examples and provide more detail. If you are short on time and the question is pertinent to few in the group, it may be best to offer to discuss it in detail after the training lesson is over. If you keep the entire group late for individual questions, others may be frustrated and resentful.



3. **Speak with enthusiasm and sincerity.**¹⁰ You should look and act excited about what you are teaching. You should be sincere when discussing the significance and importance of the topic. If you are not enthusiastic and sincere your audience will not be either. This could affect training transfer, short-term and long-term retention, and application of content.
4. **Speak loudly and with good vocal quality.** One of the most exhausting experiences is in listening to someone talk and not being able to clearly hear and understand the message. Trainers who speak loudly are generally appreciated by trainees. Not only should you speak loudly and clearly, but you should also speak with vocal inflection. A monotone speaking voice can be painful for trainees to listen to even if the content is interesting. Change in pitch, speed, volume, and intensity can add variety and excitement to the training.¹¹

Twelve Tips for Effective Training Delivery

Some basic tips for the delivery of an effective training presentation include the following:

1. **Maintain good posture.** Stand up tall with your shoulders back and chin up. Generally you should stand with your weight on both feet. In addition you should spend limited time leaning on or supporting yourself on tables, walls, or equipment.
2. **Wear appropriate attire.** Dress professionally and appropriate for the training session and content. Typically you should dress "up" from what you typically wear at work.
5. **Maintain good eye contact.** Eye contact helps trainees know you are paying attention to them. You look more excited and confident when you look at individual trainees. It is easier to engage the learners when you are looking at them and paying attention to their nonverbal feedback. Some presenters look at trainees but do not focus on their eyes (for example, focusing on an individual's hair or shirt). It can be distracting for a trainee

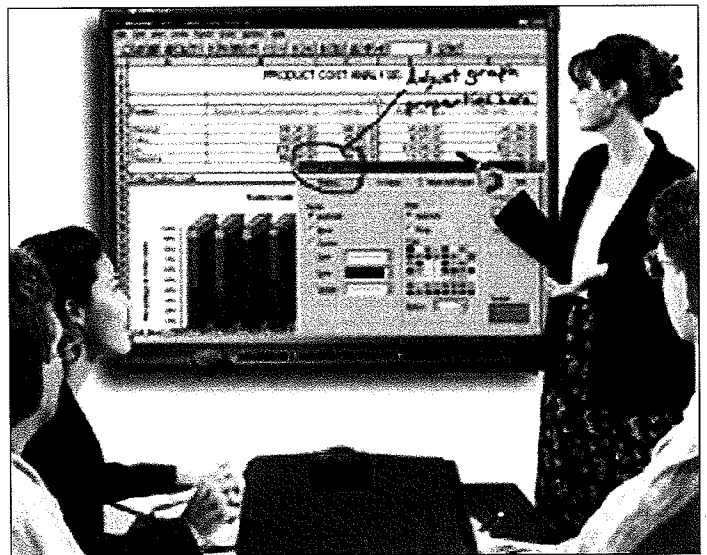
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if he or she feels you are continuously looking at something else. It is best to make and keep eye contact often. When you are not making eye contact with a trainee, it is best to glance around without maintaining a stare or focus on something else for a long period of time.

6. **Avoid distracting language.** Avoid excessive “uhs”, “ya knows”, “OKs” and other such words and phrases. If a trainee begins to focus on these, there is little chance that the training content will be effectively transmitted.¹²
7. **Use proper vocabulary, enunciation, and pronunciation.**¹³ It is good to ask colleagues or videotape yourself to find out negative speaking habits you may not know you have. You can improve most of these through practice and self-critique.
8. **Avoid annoying habits.** Some trainers have habits like chewing on fingernails or gum, playing with hair, scratching, pacing, standing too close to trainees (hovering), moving or rattling papers, or playing with eye glasses (putting them on and off). If performed extensively any of these could become a distraction to trainees.
9. **Smile and enjoy yourself.** Smiling often can enrich the training experience for yourself and your trainees. Learners like learning from individuals who like what they are teaching and enjoy being a trainer. Some people have a difficult time showing their feelings (likes, dislikes, excitement) on their faces and in their voice. These qualities can be improved with practice and coaching. If you do not like what you are doing and teaching - maybe you should not be delivering the training.
10. **Don't emphasize mistakes**¹⁴. Everyone makes mistakes; however, most people don't want to hear about them. It is fine to acknowledge an obvious mistake but mention it only once and then continue with the training. Some trainers and speakers feel it necessary to acknowledge mistakes such as

“I forgot about this training until this morning” or “I lost my notes so I'm winging this training”. Some individuals feel that this will somehow impress trainees – especially if they end up doing well. The bottom-line is this - acknowledging and dwelling on these mistakes make you look unprepared and foolish!

11. **Use an effective speaking style.** When speaking you should keep your sentences short, use personal pronouns freely (use “you” instead of “some people” and “we” instead of “the HR department”), use the active voice (“we decided” instead of “it was decided”), and address your listeners directly (use trainee's names).¹⁵

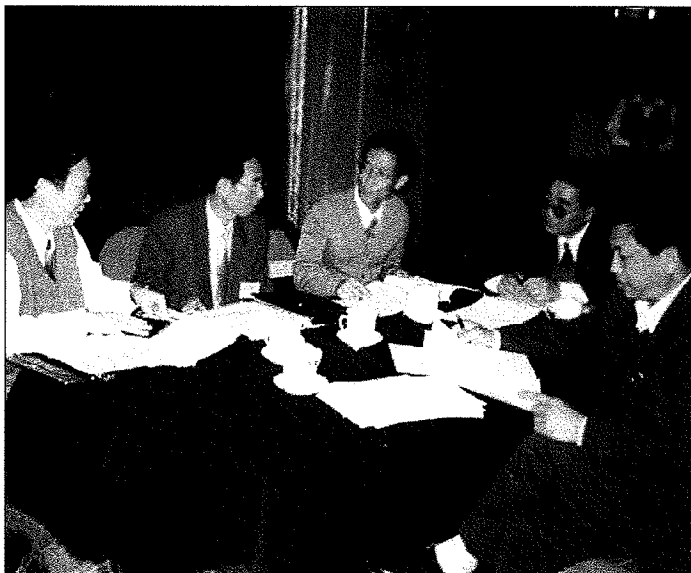


12. **Be aware of time.** It is very important to begin and end the training lesson and program on time. One of the worst mistakes trainers make is to let trainees out of a session after the allocated block of time. For the most part, trainees do not listen during this extended period of time – it is a waste of time! In general, it is important to design the training session to be appropriate in length – the shorter the better. It is also important to plan the training to be delivered during a productive time of the day. After lunch is always a difficult time for many to sit and listen. If you are a facilitating full day training, more active events should be planned during these times. Trainees often appreciate a trainer who shows awareness of the time and schedule.

Managing Training and Development

Managing training programs refers to the things, conditions, and decisions necessary to implement a specific training program.¹⁶ These activities take place *before*, *during*, and *after* the training events. Information and resources that are helpful in managing training programs *before* the event have already been provided in Chapter 4 (Training Design) and the appendices (see Appendix G forms – Training Program Design and Lesson Design and Plan). This information also extends its use into managing the training program *during* the training event. Another form that trainers often use is a checklist that outlines tasks (contacts, purchases, marketing steps, equipment sign-ups, etc.) to be completed before and during the training. This typically includes a timeline used to remind the trainer when tasks need to be completed.

Chapter 5 (Development) includes information helpful for management *during* the training event. For the effective management of the training there should be a well-organized structure with proper coding of the trainer notes and manual, trainee handouts, overheads, and other materials used. Organized materials and resources can be used effectively by new trainers and can easily be updated as needed.



The following sections provide a few additional ideas with regard to assisting trainers and managers in promoting training programs and documenting and organizing training attendance and needs. The resources are provided only as examples to give you ideas that you can use in customizing your own management system.

An important component of effective training implementation and management is that of training and performance evaluation. Managers often find these resources the most helpful in long-term training management geared at producing true expertise in their employees. This information will not be presented here but can be found in Chapter 7 (Evaluation).

Managing Promotion

Marketing and promoting training is often overlooked and can result in poor training attendance. It is important to note that the training program must be considered truly “effective” and “professional” by workers and leaders regardless of the promotion effort. With that said, even the best training events compete with the trainee’s valuable time.

A brief marketing plan targeting potential trainees and their supervisors can be helpful. In this document a plan for a variety of promotion activities (such as flyers, posters, email reminders, and pitches at meetings) should be outlined. In addition, a clearly designed outline for the timing (hours, days, weeks, and months prior to the event) of these activities should be created. Advanced notice of these events is important for workers and supervisors. It assists in creating a trainer image of professionalism, competence, and preparedness. In addition, workers feel “respected” when they are given advanced notice so they can plan (and sometime reorganize their schedules). This is true whether the training is required or optional.

It is also important to remember that the quality of training and the reputation you have as a trainer (or training coordinator) will impact how well you are able to recruit in the future. The perceptions of quality are continually evaluated by both workers and supervisors. If supervisors believe that their workers will obtain effective and important training, they will support future

6 Delivery and Implementation

attendance. Again, the first step in developing to image of "quality" is to market or promote the training early and well.

Managing Individuals

To ensure effective training for all employees, some supervisors, managers, directors, or human resource professionals find it essential to chart and track training programs for each employee. One example of such a method is located in Appendix I. The chart includes columns which list the tasks required for the position. This example uses the *Epidemiologist II* tasks from the sample task inventory in Appendix E. You can see that each task is listed along with a column and rows to input the titles and dates of completed training programs or lessons focused on a task. A final column is included for the supervisor to date when the employee has reached an acceptable level of expertise to perform the task on the job.

This chart can be adapted or expanded depending on the needs or goals of the manager. It can be adjusted to include a list of general conferences the employee may have attended. It can also include the detailed sub-tasks under each general task provided. For example, there may be multiple lessons needed for one particular task. These can be included if helpful.

Other methods of individual training management include entering similar information into the human resource information system. Some of these computer programs are flexible and can be programmed to include such information. I have also seen managers use large index cards to list the training and dates that an employee attends. Some employees are required to keep track of their own training attendance and completion for performance management, merit raises, or other recognition systems.

Caution: If budget is an issue (which it almost always is), a chart similar to Appendix I works well. Training and development expenses or time commitments can be easily defended if they are linked to one of the primary tasks for the position. It makes it fairly simple for a manager

to determine if an employee should be allowed to participate in a development opportunity (e.g., conference). If the conference information does not related to an employee's tasks - then technically it doesn't make sense to fund the employee's attendance.



Managing Organizational Programs

Human resource computer software can also be used to track training programs throughout the organization. On the other hand, simple charts can also be created to track employee training. One such example has been included in Appendix J. Charts can be made at the time the 3, 6, or 12 month general training plans are created. Tracking employee training ultimately saves time, ensures thorough employee development, displays possible weaknesses that can be improved, and assists in producing overall employee and departmental expertise.

Conclusion

This chapter provided information about the delivery and implementation of a training and/or development program. First, it discussed many of the primary training delivery concerns and guidelines. Second, it provided some tips for effective training delivery. Third, it included some ideas related to the effective management of individual and organizational training programs. Finally, these sections presented examples of tools or systems to manage these programs effectively. Part of these training

management responsibilities include the evaluation of employee satisfaction and learning. In addition, the employee's actual on-the-job performance of the skills and information learned in the training program should be evaluated. These are the topics that will be addressed in Chapter 7 (Evaluation).

Endnotes:

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Swanson (1996).

Chapter

7

Delivery and Implementation

The final step in the training and development process is evaluation. The evaluation instruments should be designed and developed during earlier phases of the training process. Evaluation instruments are designed to measure the objectives that you have written. Unfortunately, many organizations and trainers either skip this step or they design evaluations to measure limited or nonessential information. To understand this phase of the training process, the following questions will be addressed:

1. What makes a good evaluation tool?
2. How are training programs evaluated?
 - a. How does one best assess trainee reaction or satisfaction?
 - b. How does one best assess trainee learning?
 - c. How does one best assess behavior on the job?
 - d. How does one best assess the results of the training program?
3. What are other evaluation models that may provide some additional or different evaluation perspectives?
4. How do you know if training is successful?



Introduction to Evaluation

The fifth and final phase of the ADDIE model (see Chapter 2) is the evaluation of training. ⁱ

Table 7.1 Training Model

| Primary Phases | Description |
|----------------|---|
| Evaluate | Determine and evaluate training effectiveness. Report training effectiveness to stakeholders. |

An important training question that should be regularly asked is how do you determine and evaluate training effectiveness? First, it is important to understand that evaluation is a form of research. You are trying to discover answers to questions through quantitative and qualitative instruments that measure various constructs. There are some important terms to understand in research and evaluation:

Evaluation: Evaluation is a system of collecting evidence to determine if the desired changes have and are taking place.ⁱⁱ A formative evaluation is one designed to occur during the training process to provide feedback on the need for changes to guide the process and improve the chance that the goal will be reached. A summative evaluation is one typically given at the end to determine the effectiveness of the training.ⁱⁱⁱ

Reliability: The evaluation instrument should be reliable which means it should be consistent. If you use the instrument over and over does it provide consistent results? If you are using organization records, it is best to inquire about the reliability of the data collection methods. It is also important that you use controls (before

and after performance).^{iv} This means that you clearly understand where the trainees are (knowledge and skills) when they begin so that you can determine if improvement comes from the training or if it comes from other influences. Measuring knowledge or skill levels before training can give you a baseline to compare workers performance after the training program. Studying a control group (workers who do not participate in the training) along with the training group can also help you determine actual improvements in knowledge and skills related to the training program.

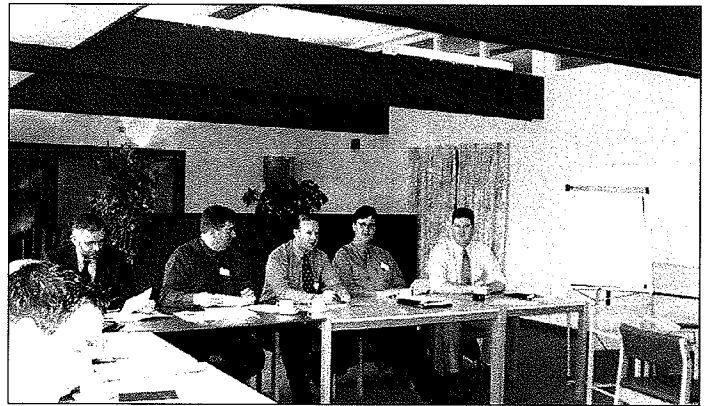
Validity: The evaluation instrument and process should be valid which means that it should measure what it is supposed to measure. For example, if you are using a satisfaction survey (given at the end of the training) you need to make sure your intent is to measure satisfaction, not learning or performance. Also, are you asking the right questions to get the information you intend to collect? For content validity it is important to make sure the unit of measurement (performance) is the same as was used in the original evaluation.^v

Note: Measuring the reliability and validity of an evaluation tool is the primary way to determine if an instrument is good. Does it truly and effectively measure what it is supposed to measure? Is it consistent in effectively measuring what it is supposed to measure each time it is utilized? Qualitative and quantitative analysis can help you make this determination. Other things that can add effectiveness and credibility to an evaluation system include: 1) appropriate methods of distributing and collecting questionnaires; 2) good length and format of the instrument(s); 3) unbiased and well-trained observers/raters; 4) ethical evaluators; 5) appropriate timeliness of evaluations; 6) proper and honest feedback to trainees; 7) effective tracking of results; and 8) use of results to modify and improve the training or development program.

Training Program Evaluation

During the training design phase you should have decided what types of evaluation instruments and systems should be used (see Appendix G – Design Consideration,

item 6). It is recommended that the system include evaluation of all four levels of evaluations described next. Some of these can be done during and immediately after the training but others should be conducted (to determine utilization and impact) weeks and months after the training is completed. Examples of an evaluation system plan will be given later in the chapter.



Possibly the most well-known evaluation model used today is **Kirkpatrick's taxonomy of measures**. This includes four primary levels of evaluation:

- **Reaction** – trainee's feelings about the program
- **Learning** – knowledge and skills gained from the program
- **Behavioral** – trainee's abilities to apply learning to their jobs
- **Results** – cost-benefit ratio of program participation.

According to the **2000 ASTD State of the Industry Report** on training evaluation, nearly three-fourths of organizations used reaction evaluations; about one-third used learning evaluations; and less than 15 percent use behavioral or results evaluations. As you will see, the behavioral and results evaluations are the most important but most difficult to collect. The following sections include a discussion of applications for Kirkpatrick's measures.

Reaction – Level 1

Reaction basically measures how much the trainees liked the training. These are sometimes called “smile sheets” because a participant's happiness or satisfaction with the training program is measured. This can include

7 Evaluation

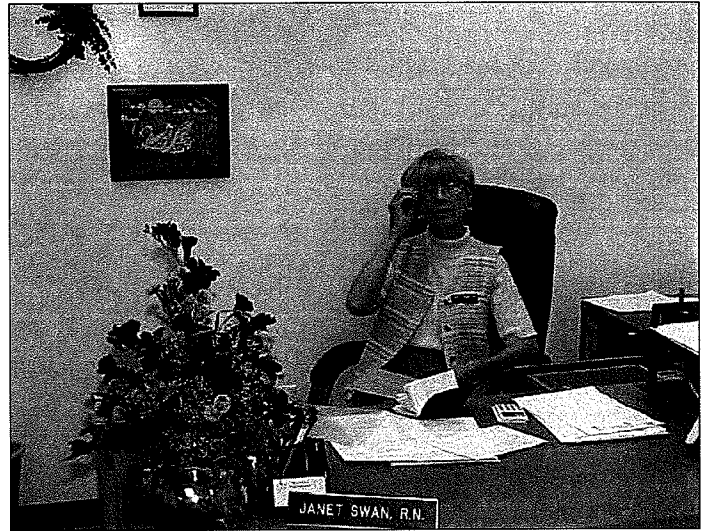
items designed to measure the content, the trainer, the methods used, and the training environment. ^{vi} This is the most common form of evaluation and the data is fairly easy to gather which is the reason most organizations use this method. It is important to note however, that much of the data gathered in this type of instrument may not relate to the objectives of the course. Participants can learn a great deal without being satisfied with the environment or the instructor. Unless reaction objectives are established when the training is developed, you might be obtaining irrelevant data through this type of evaluation.

A good reaction questionnaire will have the following characteristics:

1. Questions will be specifically related to training objectives
2. The survey will include some open-ended questions and space for participant comments
3. Survey participants should be anonymous (no names)

Reaction questionnaires primarily consist of questions that have scales of three to seven choices (sometimes up to 10). These scales may include such choices as:

- Unsatisfactory to very satisfactory
- Very unlikely to very likely
- Strongly disagree to strongly agree
- Poor to excellent
- Fallen below to exceeded (expectations)
- Not effective to very effective
- None of the time to most of the time
- Too little to too much
- Too light to too heavy (load)
- Never to always
- Uninvolved to very involved
- Unimportant to extremely important
- Did not like to liked a great deal
- Not creative to very creative
- Low to high



Some sample items may include items related to:

- Program rating
- Expectations
- Relative value of the components of the training program
- Quality of the trainer's presentation
- Knowledge and ability prior to this training
- Knowledge and ability after this training
- Motivation to learn this material before the training
- Motivation to apply the material to my current job
- Quality of the content
- Amount of time given to practice the skills
- Presentation of the material presented in a clear and concise manner
- Quality of the physical environment
- Quality of the feedback I received
- Use of my time
- Quality and use of handouts and visual aides
- Quality of multi-media (videos, computer-based training, video-conferencing)
- Relevance to my current job
- Practical value
- The influence of training on improvement in job performance

There are numerous formats that can be used for rating scales designed for gathering reaction data. Some examples are provided below:

1. How would you rate this program? (Check one)

Unsatisfactory _____

Satisfactory _____

Good _____

Outstanding _____

2. How would you rate components of this program? (1 = excellent, 2 = good, 3 = fair, 4=poor)

The instruction _____

Handouts _____

Visual aids _____

Small group _____

discussions _____

3. Was the training content applicable to your job? (Check one)

To most of my job? _____

To some of my job? _____

To none of my job? _____

4. Rate the helpfulness of the tools used in this training by placing a check in the most appropriate box:

| | Excellent | Good | Fair | Poor |
|-------------------------|-----------|------|------|------|
| Instructor | | | | |
| Handouts | | | | |
| Visual aids | | | | |
| Small group discussion | | | | |
| Role-playing activities | | | | |

5. Would you take this course again? (circle)

1 2 3 4 5

Very

Unlikely

Very

Likely

6. Level of trainer's knowledge (Circle best answer)

10 9 8 7 6 5 4 3 2 1

Knows the
area very
well

Sometimes has
to look up
answers

Knows a
little more
than us

7. What suggestions do you have for improving the training?

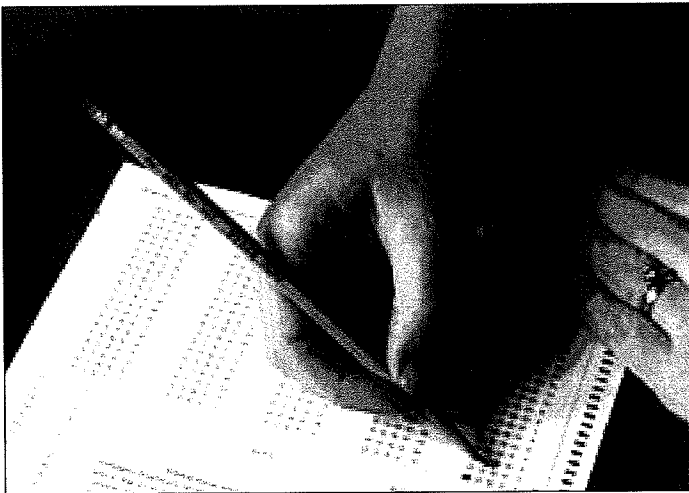
8. Consider your expectations and primary reasons for attending this training. In the second column (importance), write a percentage (of 100) that explains what you hoped to gain. If you only mark one column – you should put 100% in the appropriate box. If you had a number of reasons for attending then you must divide the percentages between them. In the third column rate the degree you feel your expectations were met (1-10: 10 being the best).

| <i>Item</i> | <i>Expectations for training (%)</i> | <i>Degree you feel your expectations were met.</i> |
|---|--|--|
| Take a break from work | | |
| Exchange ideas with others | | |
| Learn things I can directly apply to my job | | |
| Get copies of supplemental materials | | |
| Network with other professionals | | |
| Deepen my understanding and skills | | |

Items adapted from sample items suggested in Wesley & Latham (2002), p. 129-134.

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It is important to remember that favorable reactions do not necessarily mean that the trainee has learned and will use the new knowledge or skills in his or her job. However, these data are helpful for a few reasons.^{viii} First, positive reactions may help ensure top management support for a program. Some programs are canceled (prematurely) because a top manager listened to negative reports from one or two workers. Second, some utility questions can help determine the usefulness of the training. Third, some reaction responses can assist in restructuring training to become more effective. Fourth, some individuals are more motivated to learn when they enjoy the training experience. Fifth, it is sometimes helpful to analyze results by departments or groups to understand group issues, concerns, and culture. Self-reports are often helpful in reaction evaluation.



Learning – Level 2

The second level of evaluation is learning. Assessing how much and how well an individual learned should be more important than how much the individual enjoyed the training. Did the trainee learn the information and concepts offered in the training (knowledge)? Research has found that trainees' learning correlates with immediate job performance.^{ix} There are two categories of learning instruments: knowledge and performance.

Knowledge is most often measured by paper-and-pencil tests with true/false, multiple-choice, or fill-in-the-blank questions. Questions that focus on recognizing information or misinformation are better than recalling answers from memorization.^x In small groups of structured on-the-job training situations, evaluation of knowledge can also include asking and receiving verbal questions. For example, if training was conducted for public health nurses in the differential diagnosis of bioterrorism agents, some appropriate knowledge instrument may include such items as:

1. *Bacillus anthracis* (Anthrax) is communicable person-to-person
 - a. True
 - b. False
2. The following symptoms would indicate which category A bioterrorism agent: acute febrile illness, pharyngitis, bronchiolitis, pneumonitis, pleuritis, hilar lymphadenitis, and later onset of shock?
 - a. Plague
 - b. Botulism
 - c. Tularemia
 - d. Ebola
3. Describe the appropriate infection control precautions you would use when coming into contact with a suspect case of tularemia.

Performance tests (also in Kirkpatrick's **Learning** level) are also used to find out if individuals have mastered particular skills. Trainees may have props to use for demonstration of skills or may be tested on an actual piece of equipment. At the management level, assessment can include the use of role-plays, exercises or games, or case study analysis. After the trainee is back on the job, another mode of performance evaluation is to observe the individual performing the task or using the knowledge addressed in the training program.

Performance evaluations can be used to measure a variety of skills such as:

- Safe packing and shipping of laboratory samples
- Data entry
- Data analysis
- Survey design
- Interviewing skills
- Counseling people with health risks
- Providing patient education
- Conflict resolution

Even though a trainer or evaluator can usually *observe* the performance test, an instrument should be used to rate each important skill or component of the skill. For example, a criteria sheet can list the steps the trainee should take to accomplish the tasks and a box to check if the step has been completed satisfactorily. Some trainers find that, for some tasks, a more detailed rating system is useful (see *Reaction* section for formatting examples).

It is important to remember that, no matter what evaluation instrument or technique you may use, it should always be directly linked with the learning objectives of the training lesson and program.



Behavior – Level 3

The third level of evaluation is *behavior* on the job. There is often a difference between *knowing* concepts and techniques and actually being able to *use* them on the job. Because the goal of most training programs is to assist employees in improving their job performance, this is an important level to evaluate. Interestingly, few organizations take the time and effort to do this.

There is a large gap between *knowing* and *doing* with some employees. They know enough to give plenty of advice to others but do not use their own knowledge/advice in their own job. Another training and development concern is that some employees will do well on a knowledge or performance test given at the end of training, but still cannot or will not implement the new skills in their actual job. Instruments designed to measure this level of evaluation must assess an employee's implementation of the new knowledge or skills on the job.

So, how do you measure behavior on the job? Let me provide an example from my past consulting work. A number of years ago I worked for an organization whose leaders were concerned about the lack of assertiveness exhibited by the front receptionist employees. There were about 15 individuals who worked in this position and it was common knowledge that many visitors were allowed into the building without being logged or checked in by a front receptionist. After some short interviews with some of the employees it was determined that, in fact, the receptionists lacked basic assertiveness skills that would allow them to conduct their jobs more effectively. I performed an in-depth analysis of the position (subject-matter expert interviews, literature) to determine the important skills and knowledge required to be effective in this specific position.

Next, I designed the training program. This included an initial 2-hour training using a variety of teaching methods. Most applicable to this chapter, however, was my plan and implementation of the evaluation portion. The evaluation pieces of this program (first 3 levels) included:

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1. **Reaction:** a one page training reaction survey that was distributed and collected at the end of the 2-hour training.
2. **Learning:** 1) a one-page quiz on the importance and techniques of assertiveness skills was distributed and collected after material was presented; and 2) a short peer evaluation form completed and handed in after the employees were put into groups of three to role play various assigned job-related assertiveness scenarios.
3. **Behavior:** 1) within one-week of completing the initial training, receptionists were required to report to their supervisor the details and results of two specific situations in which they had used their new assertiveness skills on the job (see supervisors log in Appendix K); and 2) approximately one month after the training, without the receptionists being aware, the supervisor or the supervisor's manager observed each receptionist to evaluate assertiveness skills. A specific form was designed that was easy to use and it worked well (see Appendix L).

Six weeks after the initial training was held, receptionists again met for a 45 minute follow-up training where they discussed problems and concerns, asked questions or clarifications, and reported on their own progress in this area. Their supervisor also gave a report (in front of the group) on individual progress. The receptionists were informed in the first training that this would occur. Most of the comments were positive and it was clear that most receptionists had formed positive assertiveness habits that had and would continue to benefit the organization. Many also reported situations outside of work that had been improved because of their new-found assertiveness skills.

All of this may seem like a lot of work. Most of the work, however, was done in the development phase before the training was implemented. Once the program was implemented the evaluation pieces were easy to understand and use. The supervisor did not feel that it added much work to her job. She actually enjoyed the process and felt good about her employees' progress and the overall results of the training program.



Results – Level 4

The fourth level of evaluation is organizational results. According to Wesley and Latham (2002):

The objectives of many training programs can be stated in terms of cost-related results or behavioral outcomes rather than the behaviors themselves, for example, a reduction in turnover, an increase in attendance, an increase in quantity and quality of units produced, an increase in sales, and a reduction in accidents. (p. 141)

There are various complex accounting and financial methods to analyze some of the results. Because of their complexity, I will not take time to present them in this publication. However, I have included some helpful references on this topic for you to read if interested. Even though the previous statements are primarily directed at for-profit organizations, application to non-profit should be clear. There should be organizational gains when employees increase their skills and knowledge. A trainee's increased competence on the job should have some influence on the organization as a whole. Some examples of public health results that may be measured and analyzed include the following:

- Needs assessment training for program managers results in higher grant awards, as they are better able to identify and communicate need to donors.
- Infectious disease outbreaks are detected earlier after an extensive educational effort to train physicians in reportable disease notification.

- More WIC clients are served because of process revisions and training in clinic operations.
- Dollar savings by training resulting in more effective use of supplies.
- Increased management skills result in employees who are committed to the department and have intentions to stay (cost savings in reduced turnover and many benefits resulting from increased organizational commitment)
- Orienting all staff about the vision, mission and purpose of public health as well as their own roles and contribution leads to greater job satisfaction and reduces staff turnover.
- Implementation of and training in a new streamlining process expedites Medicaid applications by 50%.

With regard to my previous example (front receptionists and assertiveness), once **results** evaluation piece was designed and utilized, I worked with one of the accountants to determine (on a monthly basis) improvement in revenue specifically related to the receptionists assertiveness. Even though the employees and supervisor felt things had improved, it was nice to show top management that the training had resulted in increased revenue for the organization.

In the public health arena, directors are typically interested in different types of results. I would recommend that you study results that matter to public health and create instruments to measure the training results in these areas.

Conclusion

An evaluation plan (made up of various instruments and measures from three or four of the evaluation levels) can be provide valuable information and also be the motivation which assists employees in actually using the new information and/or skills in their jobs. In the creation and design phase you may want to use a table like the one found in Appendix M (Evaluation Plan). It is one way to think though the methods of evaluation and

what will assist in motivating employees to transfer the knowledge into the workplace.

Typically, supervisors prefer charts or tables that can assist them in keeping track of needs and training evaluation plans. Appendix N is a table that was used by the supervisor in my assertiveness example. All of her charts and materials were stored in a tabbed notebook for easy access and recording. The important thing is to find ways to track information so that supervisor and employee accountability is present. However, too many charts and methods may be overwhelming. I have provided many ideas for designing, managing, and evaluating training. Customizing these to your situation and training project is vital.

Other Evaluation Models

To provide other evaluation perspectives, I will briefly present two additional models that have been used by practitioners to provide a framework for designing evaluation programs: PLS Evaluation Model and the Human Resource Development Evaluation Research and Measurement Model.

PLS Evaluation Model

The PLS (Performance – Learning – Satisfaction) model ^{xi} is similar to the Kirkpatrick model used as a guide for this chapter. The evaluation levels include the following:

1. *Satisfaction*: this level can be thought of as the reaction or perceptions of two groups:
 - *Participants* directly involved in the training
 - *Sponsors* of the participants (such as the supervisor or department)
2. *Learning*: this level can be thought of as the mastery or demonstration of in new information:
 - *Knowledge* can be measured by instruments designed to access the mastery of the information and concepts presented.
 - *Expertise* can be measured by the participant demonstrating their new workplace skills, abilities, or knowledge

7 Evaluation

3. *Performance*: the final level can be thought of as evaluation focused on the overall or systems-wide view.

- *Business* results include evaluations that measure overall results and changes in the organization or department that are non-monetary (such as morale, number of individuals training, overall competence of staff, improved efficiency of staff to accommodate more clients)
- *Financial* results measures the benefits to the organization that are related to money or monetary ratios (for example, gain or savings of funds)

This model, although similar to the last, does provide a different perspective that you may want to use in providing the general framework as you design your evaluation program.

Human Resource Development Evaluation Research and Measurement Model

Because of its complexity, I have chosen not to present this model in its entirety. However, there are some components that are useful in considering the forces that may influence evaluation results. These are important to consider in the design and delivery of the evaluation piece. In addition, this information may be useful in explaining or understanding results from the evaluation (especially if they are substantially different that you may have expected). You will notice that many of the concepts in the first few chapters are included in components of this model.

First, the three primary outcomes of training are highlighted: 1) learning, 2) individual performance, and 3) organization results. Holton^{xii} then presents the various elements that influence each outcome. Understanding these elements can assist in all phases (including designing, delivering, and analyzing evaluation results).

Learning – can be influenced by

- Participant ability
- Reaction to training/trainer
- Motivation to learn which in turn can be influenced by secondary factors (personality characteristics, intervention readiness, and job attitudes)

Individual Performance – can be influenced by

- Transfer design
- Transfer climate
- Motivation to transfer which in turn can be influenced by secondary factors (job attitudes, intervention fulfillment, learning)

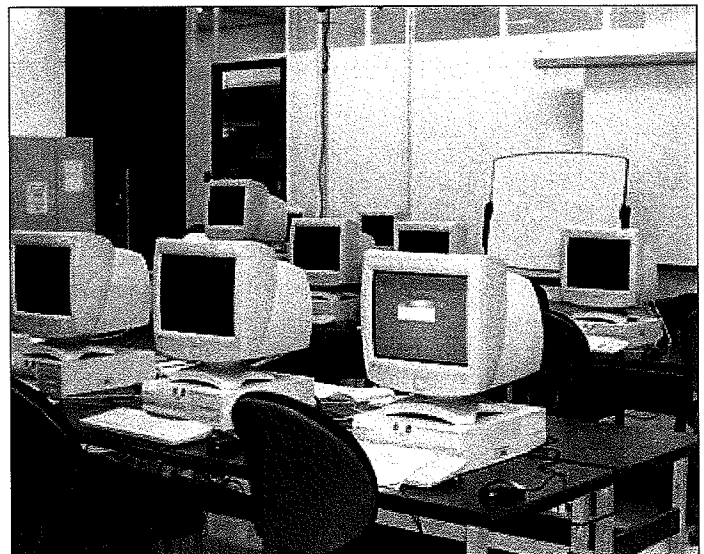
Organizational Results – can be influence by

- Linkage or organizational goals
- Expected utility/ROI
- External events
- Individual performance

As discussed previously, these three outcomes can be influenced by the elements listed above. Considering these elements can improve the evaluation results. These elements should also be discussed when analyzing data and determining the part that the actual training program played on the various results.

Program Success

So, how do you know if a training or development program is successful? This is an easy question because I have discussed it throughout the chapter. You must design and development an effective training evaluation system. This means you need to use or create tools that have high reliability and validity. You must ensure that the tools measure the objectives of the program. And, you must deliver and obtain data at appropriate and pre-designed intervals.



If you have created a solid evaluation system, you can clearly determine whether training programs are successful. However, remember that there are various definitions of successful training. Using various levels of evaluation instruments you can determine success related to trainee satisfaction, learning, behavior on the job, and organizational results. Employees may love the training (success at the reaction level) but never actually implement the new skills on the job (failure at the behavior level). If you have drafted a training proposal as discussed in Chapter 3 then you may have already determined what would be “success” to your department.

Conclusion

I would propose that the purpose of a well-designed and implemented evaluation plan is four fold. First, it should provide feedback which can be used to redesign and/or plan future training. Second, it should provide feedback for trainees so that they can make changes and improvements needed for better job performance. Third, it should focus on evaluating the learning outcomes designed in the training program. Fourth, it should provide motivation for management and employees to focus on (and maintain) the implementation and continued use of training content and skills (transfer of training).

This chapter has presented information on designing and implementing an effective evaluation program. Even though it is tempting not to take the time and energy to effectively evaluate – organizations that do have seen the results. The charted increase in employee job performance and increased organizational effectiveness make it well worth the effort, time, and money!

Endnotes:

- i Swanson, R. A. (1996). Training for Performance System Field Handbook. St. Paul: Swanson & Associates.
- ii Ibid.
- iii Ibid.
- iv Swanson, R. A. (1996). Performance-learning-satisfaction evaluation system: The application of a three-domain evaluation model for human resource development. St. Paul, MN: HRD Research Center.
- v Ibid.
- vi Wexley, K. N. & Latham, G. P. (2002, p. 77). Developing and Training Human Resources in Organizations (3rd ed.). Upper Saddle River, NJ: Prentice Hall, 128.
- vii Ibid.
- viii Wesley & Latham (2002)
- ix Ibid.
- x Ibid.
- xi Swanson, R. A. (1996). Performance-learning-satisfaction evaluation system: The application of a three-domain evaluation model for human resource development. St. Paul, MN: HRD Research Center.
- xii Holton, E. (1996). The flawed four-level evaluation model. Human Resource Development Quarterly, 7(1), 5-21.

8 Training Exercises and Activities

Written by Sharon Talboys

In public health, adding exercises and activities to a training program can accomplish a number of possible objectives:

1. The training becomes more interesting and exciting to trainees (increased satisfaction);
2. Trainees must review and synthesize the materials just presented;
3. Exercises and activities develop critical thinking and decision-making skills specific to the content area;
4. These activities can be used as a method of working in and developing teamwork abilities and skills.
5. Trainees are required to present the results which assists in the development of presentation skills.
6. Trainees see direct application of the training content previously presented
7. Trainees often discover solutions to existing workplace problems and return with new ideas for improvement.
8. Trainees have a chance to learn more about their co-workers

This chapter includes a variety of exercises and activities related to a number of different content areas. If you cannot find one that directly applies to your training program, I hope that these examples will provide you with ideas and assistance to create your own. I have asked a number of public health professionals to assist by contributing these activities (thank you!). The following list of sample activities and exercises are found in the case studies presented in this chapter. The sample activities/exercises are in order of their presentation in the following case studies.

Sample Activities –

1. Icebreaker Activity – This example provides a method to putting learners at ease with each other and the instructor to enhance their ability to engage in learning.
2. Capstone Exercise – This example illustrates a problem solving activity that encourages the learner to apply new knowledge.
3. Smallpox Vaccination Clinic Simulation- This example illustrates a practice activity. Learners are challenged to practice the actual implementation of a vaccination clinic.
4. Hands on/OTJ training – This example describes a hands on training for safe package and handling practices of laboratory samples.
5. Role-Play Activity – This example describes how role-play is used for HIV counselor training.
6. Tabletop exercise – This example describes a mock smallpox outbreak scenario used as a training technique for bioterrorism preparedness.
7. Functional emergency drill – This example describes an emergency drill where an infectious disease outbreak is simulated, forcing players to respond.

Case Study: Adventures in Public Health: A Computer Based Training (CBT)

This example describes all levels of training development that went into the production of a computer-based training (CBT) for public health workers called Adventures in Public Health. This cases study is more extensive than the others in that it describes the complete process of training development from the analysis phase through the evaluation phase.

Analysis

Training needs assessments conducted at the Utah Department of Health identified that most employees had no formal public health training and had difficulty in 1) defining public health, 2) understanding core functions and services of public health, 3) identifying public health career paths, and 4) understanding public health infrastructure and history. Department leadership wanted to increase motivation and confidence levels among employees by teaching them about the important role they play in public health. Due to the size of the Department (over 1,000 employees), it would be impractical to deliver classroom training to everyone. Therefore, training developers opted to use a computer based format, or CBT, paired with optional classroom workshops. CBT has advantages and disadvantages:

Advantages:

- ▲ Less dependence on time or location (being in the classroom at a certain time) for people to learn on the job
- ▲ Permits updating and tailoring content for your audience on a large scale
- ▲ Allows students to go at their own pace
- ▲ Saves money over time by mass scale delivery
- ▲ Facilitates adaptation of training to be implemented in other states or agencies.
- ▲ Standardizes evaluating across different sites or populations because teaching methods and materials are more uniform using CBT

Disadvantages:

- ▲ Initial development takes longer and can be expensive
- ▲ Trainees have varying comfort levels with using computers
- ▲ Some trainees may not have compatible equipment
- ▲ Some trainees may prefer in-person interaction over independent study

A CD ROM was developed and pilot tested. Pilot testing resulted in technical improvements and the addition of the optional hands-on workshop.

Delivery & Implementation

The implementation of Adventures in Public Health has been an ongoing process. The delivery runs in three-month cycles, using a new employee orientation as a starting point to kick off each class. The CBT is also available to all existing Department staff to complete at their own pace. The CBT consists of five multimedia lessons that include narration, text, video, audio, and animated graphics. The CBT also links to additional resources, allowing the learner to study just the basics, or to explore additional material through the internet.

8 Training Exercises and Activities

Delivery & Implementation

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Training Evaluation

A formal evaluation of Adventures in Public Health was designed in the early stages of development. The evaluation method included the use of a control group for comparison that did not receive the training, although they were given the opportunity at a later time. Data was collected using a pre and posttest that measured the four dimensions discussed in Chapter 7.

▲ ***Reaction – trainee's feelings about the program***

Trainees were asked a series of satisfaction questions after the course is completed.

▲ ***Learning – knowledge and skills***

Trainees completed a series of true false, multiple choice, and open-ended knowledge questions prior to and immediately after the course.

▲ ***Behavioral – trainee's abilities to apply learning to their jobs***

Trainees are asked a series of questions about their confidence and self-efficacy levels in participating in public health activities prior to and immediately after the course. They also demonstrate their ability to apply new knowledge through exercises in the classroom workshop portion of the course.

▲ ***Results – cost-benefit ratio of program participation***

The evaluation data is collected over time and entered into a database. This provides a rich source of data that can be utilized over time and compared to cost-benefits. It could be argued that the increase in motivation levels alone is benefit enough.

A summary of initial evaluation results are listed below.

Public Health Knowledge:

Among participants who were in the training group, there was a:

- 26% increase in being able to define public health (27% before to 53% after)
- 28% increase in public health knowledge scores (64% before to 92% after)

Public Health Motivation of "Buy-In" Levels:

Among participants who were in the training group there was a:

- 16% increase in public health interest levels among class participants
- 16% increase for enthusiasm for public health goals among class participants

Self-Efficacy, or Confidence Levels in Understanding and Participating in Public Health:

Among participants who were in the training group, there was a:

- 25% increase in confidence levels in understanding basics public health concepts
- 23% increase in confidence levels in describing public health to others
- 22% increase in confidence in discussing public health issues

Course Feedback:

Of those who were in the training group, evaluation scores on a 1-5 scale, 5 being highest, they gave a

- 4.6 rating on "satisfied with the course"
- 4.4 rating on "lessons on CD were valuable to me"
- 4.4 rating on "course increased my understanding of public health"
- 4.1 rating on "would recommend to co-workers"

The Adventures in Public Health CBT training demonstrated significant positive change in learners. These findings lead us to believe that this training format is welcome and appropriate for public health employees, regardless of formal public health education and experience. The training has received very positive feedback, with most participants indicating they would recommend the training to their co-workers. The Adventures in Public Health CBT is currently being reformatted into the second version which will address some ADA compatibility issues and add new media and interactive features to the CBT. This format of training will continue to be used in new employee orientation and throughout the Utah Department of Health.

Questions to ask before using CBT:

- ▲ Does my audience have the equipment and technical support to use the CBT?
- ▲ Does management support this training format and will allow the learner time to complete the courses?
- ▲ How should you balance face-to-face interaction with CBT?

8 Training Exercises and Activities

Sample Activity 1

Icebreaker Exercise: Used with Adventures in Public Health CBT

As a way to reinforce the core functions and essential services of public health, participants are paired off and asked to interview each other to find out who they are, what core functions and services they address in their career. They are given a list of the 3 core functions and 10 essential services as a reference (see below). The participants then go around the room and introduce the person they interviewed to the class. This exercise provides a chance to “break the ice” and learn more about each other. It also challenges the trainee to think critically about the core functions and services of public health. It also encourages all participants by having their important role be acknowledged and praised by the class.

Reference material:

Core Public Health Functions

- ▲ *Assessment:* Assessment and monitoring of the health of communities and populations at risk to identify health problems and priorities.
- ▲ *Policy Development:* Formulating public policies, in collaboration with community and government leaders, designed to solve the local and national health problems and priorities identified in the assessment phase.
- ▲ *Assurance:* Assuring that all populations have access to appropriate and cost-effective care, including health promotion and disease prevention services, and evaluation of the effectiveness of that care.

The Ten Essential Public Health Services

1. Monitor health status to identify community health problems.
2. Diagnose and investigate health problems and health hazards in the community.
3. Inform, educate, and empower people about health issues.
4. Mobilize community partnerships to identify and solve health problems.
5. Develop policies and plans that support individual and community health efforts.
6. Enforce laws and regulations that protect health and ensure safety.
7. Link people to needed personal health services and assure the provision of health care when otherwise unavailable.
8. Assure a competent public health and personal health care workforce.
9. Evaluate effectiveness, accessibility, and quality of personal and population-based health services.
10. Research for new insights and innovative solutions to health problems.

Sample Activity 2**Capstone Exercise: Used with Adventures in Public Health CBT**

The capstone activity is a culmination of the different aspects new employees have learned about in the course and what they have learned on the job. This exercise challenges the trainees to apply their knowledge to solve a public health problem as a team. Before the workshop, the instructor identifies 3 or 4 current public health “hot topics” and gathers background information on each topic and makes handouts. These handouts should not take more than 10 minutes to read. The instructor may want to invite department experts of the topics selected to provide additional guidance and feedback during the exercise. The class can then be grouped into teams by interest. The teams are given 45 - 60 minutes to complete the exercise. Once all teams are finished, each has five minutes to present their strategy. The following directions are provided to the trainees.

Directions: You are part of a public health coalition comprised of state, local, and community public health agencies and organizations. Your group will address a topic from the list below and will be provided with background information on the subject. One assumption you can make is that your project is fully funded. Please complete the following activities as a group:

1. Review the materials about your topic (5-10 minutes)
2. As a group, identify the following: (30minutes)
 - a. The basic problem
 - b. A clear message about this topic and the audience to which you wish to present your findings
 - c. Strategies being used to address this issue
 - d. Examples of how each core function is addressed (assessment, policy development, and assurance)
 - e. The difference types of public health expertise needed
 - f. Any conflicting values, i.e. science vs. politics
3. Present your findings to the group (3-5 minutes)

8 Training Exercises and Activities

Sample Activity 3

Smallpox Vaccination Clinic Simulation

The implementation of the Utah Smallpox Vaccination Program in February 2003 presented managers and trainers with a large unmet training need. The primary target audiences for training included 1) local health department staff who would be responsible for implementing vaccine clinics, 2) public health workers who volunteered to be on healthcare response teams (and to be vaccinated), 3) healthcare response teams (primarily hospital staff) who volunteered to be vaccinated, 4) physicians, and 5) pre-hospital responders, i.e. paramedics and EMTs. The following simulation describes the hand-on activity utilized to train local health department staff responsible for the implementation of a vaccination clinic.

The simulation was designed to provide a hands-on experience with clinic operations. The simulation was a dry run of a pre-event smallpox vaccination clinic. All participants had a role in these simulations; however they did not know what role they would play until the simulation began. Some roles, such as clinic manager and doctor, were pre-assigned to individuals who would actually fill these roles in real clinics. Other roles assigned included patients, patient educator, screener, greeter, vaccinator, site care/take assessment, data entry, and observers. Observers were assigned to watch the process and note any problems, concerns, or suggestions for improvement. The participants were divided into four different simulations. Each role had a basic script provided to make sure the all the legal concerns of a clinic were appropriately addressed.

Roles:

- ▲ *Patients:* They were assigned a medical history and some role of how to act.
- ▲ *Greeter:* Who would welcome and verify the patient's identity, give the patients the necessary documentation and direct the patient into the clinic.
- ▲ *Patient Education:* This station had a mock TV and VCR to show the patient education video.
- ▲ *Patient Screening:* the patient completes the forms that record patient medical history and documentation of health status. The primary purpose of this station was to verify that the patient did not have contraindications to the smallpox vaccination.
- ▲ *Vaccinator:* Next, patients went to a station to receive the actual vaccination. Toothpicks were used instead of real needles, and other medical supplies were either found or improvised.
- ▲ *Site-Care:* The last station was the site-care and take assessment area. At this station the patient would be given information about care of the vaccination site and instruction on when to return to the clinic for the take assessment.
- ▲ *Observer:* The role of observer turned out to be a key component of the training. These observers provided many suggestions that enhanced the efficiency of the process and helped make necessary changes to the documentation.
- ▲ *Clinic Manager:* Each simulation had its own clinic manager.
- ▲ *Doctor:* The doctor reported to all four clinics. Each clinic had a cell phone to access the doctor "on call."
- ▲ *Data Entry:* The data entry person collected data from all four clinics.

Several questions regarding patient medical history, privacy laws, possible contraindications and staffing needs were identified during this process and then addressed in the roundtable and debrief. The simulation also gave the local health departments a basic idea of the staff they would need to implement a clinic in their health department. It also provided the trainers with experience to draw on and benefit from when they implemented their own dry run vaccination clinic.

8 Training Exercises and Activities

Sample Activity 4

Hands on Training: Safe Laboratory Sample Handling

The Utah Department of Health Laboratory Bioterrorism Response conducts joint training sessions with local first responders and the FBI. The goal of this training is to provide first responders with practical experience in identifying and safely handling samples that need to be sent to the state lab. The training audience consists of approximately 15 first responders and lasts approximately 3 hours.

Learning Objectives

1. The first objective is focused around the recognition of “suspicious” powders, credible threats, and FBI’s expectations during these events. The local FBI field agent conducts this portion of the training.
2. The second learning objective is targeted toward safe sampling techniques to be used by the first responders when responding to a scene.
 - Trainees receive hands-on instruction on sampling techniques and instrumentation
 - This allows the group to gain practical experience in handling samples safely
 - The small group also allows for a great deal of one-on-one interaction
3. The third learning objective focuses on public health information. This includes:
 - Information on the “high priority” biological agents such as Anthrax and Plague
 - Aganet specific guidelines for handling samples safely
 - State public health laboratory’s expectations
 - State public health laboratory process and the appropriate contact information

Breaks are given between each presentation and the atmosphere is very casual. Participants are encouraged to ask questions throughout the presentations. Evaluation sheets are distributed at the beginning of the public health portion of the class. The evaluation sheets include topic questions relating to the presentation, along with normal questions evaluating the relevancy and usefulness of the presentation. Overall, this training session was well received and more of these sessions are in the planning stages.

Sample Activity 5

Role Play in HIV Prevention Counseling Training

Role-plays are an essential part of HIV Prevention Counseling training. A counselor is presented with a simulated real-life client situation and encouraged to follow the six counseling steps learned in the training.

Groups of 2-3 participants are formed depending upon the number of workshop participants. If in pairs, the "client" provides feedback to the "counselor." If in a trio, both the "observer" and the "client" can provide feedback to the "counselor." Feedback consists of finishing two statements: "I liked in it when . . ." and, "I wish you would have... ." Counselors are encouraged to accept the feedback as a gift and not to be defensive.

Role-plays

- ▲ The first role-play covers the first three steps in a simulated situation and lasts about 6 minutes.
- ▲ The second role-play focuses on step four and lasts for about 8 minutes.
- ▲ Both the third and the fourth role-play include all six steps of the simulation and lasts about 20 minutes each.

Training evaluations continually report that the role-plays were the most helpful part of the training. Participants are encouraged to continue role-playing with co-workers and friends until they feel their skills are ready to attend to a "real" client.

8 Training Exercises and Activities

Sample Activity 6

Tabletop Exercise

Utah's state and local health departments conducted a series of tabletop exercises to prepare for bioterrorism threats. A tabletop exercise is simply a mock scenario of an emergency event. It is called a tabletop because the exercise is a verbal walk through at the table, rather than a functional drill that is action oriented.

In this case, a scenario of a smallpox outbreak was developed and put into a power point slide show. All potential players in the community were invited to participate, including emergency responders, hospitals, and law enforcement.

The discussion covered five overarching issues:

1. Roles and responsibilities
2. Communication channels
3. Protective actions
4. Recovery issues
5. Planning and operational gaps.

These tabletop exercises were implemented with a facilitator and evaluators.

- ▲ **Facilitator's Role:** The role of the facilitator is to unfold the scenario deliberately and to moderate the discussion.
- ▲ **Evaluators:** The evaluators role was to capture information and document current status that is shared during the tabletop. Evaluators also write an after action report, which all participants receive. This report summarized the exercise and identifies action items.

Sample Activity 7***Functional Emergency Drill***

The Utah Department of Health took part in an exercise that simulated a large outbreak of yersinia pestis, or pneumonic plague. This exercise was a functional internal drill, while all external players were simulated. The simulation cell, or SimCell consisted of phones, operators, and guided by a Master Event List, or MSEL, which provided simulated injects into the scenario at specific times. The purpose of this exercise was to test the ability of the Utah Department of Health employees to respond to a biologic emergency requiring coordination of resources, communication between departmental agencies, assembling necessary staff and fulfilling emergency roles and responsibilities. The exercise began at 8:00 am with phone calls coming into the statewide disease notification phone line. As the exercise progressed, simulated calls from political leaders, media and concerned citizens flooded the department's phone lines. The emergency communication center was established to respond to and triage incoming phone calls. The public information officer held a mock news briefing, epidemiology and lab staff worked to identify the biological agent and all support operations were activated to support the response to this emergency.

After the exercise was complete, there was an hour and half "hot wash" or debrief to review the simulation. This gave participants the opportunity share their experiences and lessons learned during the exercise. What went well and what areas needed improvement were also identified during this process. Action steps were developed and team leaders for each action step were assigned. This process served as a recap of the event and is the first step in developing an after action report. The after action report will be used for several purposes. First, the after action report will be used to assess future training needs based on the response in this exercise. Second, it will identify additional actions steps that need to be taken. Last, the after action report will provide information for the development of future exercises or table top drills to evaluate emergency preparedness improvements.

8 Appendices

Appendix A Instructional Events and the Conditions of Learning They Imply for Five Types of Learned Capabilities

| Instructional Event | Type of Capability | | | | |
|--|---|--|--|--|---|
| | <i>Intellectual</i> | <i>Cognitive Skill</i> | <i>Information Strategy</i> | <i>Attitude</i> | <i>Motor Skill</i> |
| 1. Gaining attention | Introduce stimulus change; variations in sensory mode | | | | |
| 2. Informing learner of objective | Provide description and example of the performance to be expected | Clarify the general nature of the solution expected | Indicate the kind of verbal question to be answered | Provide example of the kind of action choice aimed for | Provide a demonstration of the performance to be expected |
| 3. Stimulating recall of prerequisites | Stimulate recall of subordinate concepts and rules | Stimulate recall of task strategies and associated intellectual skills | Stimulate recall of context of organized information | Stimulate recall of relevant information, skills, and human model identification | Stimulate recall of executive subroutine and part-skills |
| 4. Presenting the stimulus material | Present examples of concept or rule | Present novel problem | Present information in propositional form | Present human model, demonstrating choice of personal action | Provide external stimuli for performance, including tools or implements |
| 5. Providing learning guidance | Provide verbal cues to proper combining sequence | Provide prompts and hints to novel solution | Provide verbal links to a larger meaningful context | Provide for observation of model's choice of action, and of reinforcement | Provide practice with feedback of performance achievement |
| 6. Eliciting the performance | Ask learner to apply rule or concept to new examples | Ask for problem solution | Ask for information in paraphrase, or in learner's own words | Ask learner to indicate choices of action in real or simulated situations | Ask for execution of the performance |
| 7. Providing feedback | Confirm correctness of rule or concept application | Confirm originality of problem solution | Confirm correctness of statement of information | Provide direct or vicarious reinforcement of action choice | Provide feedback on degree of accuracy and time of performance |
| 8. Assessing performance | Learner demonstrates application of concept or rule | Learner originates a novel solution | Learner restates information in paraphrased form | Learner makes desired choice of personal action in real or simulated situation | Learner executes performance of total skill |
| 9. Enhancing retention and transfer | Provide spaced reviews including a variety of examples | Provide occasions for a variety of novel problem solutions | Provide verbal links to additional complexes of information | Provide additional varied situations or selected choice of action | Learner continues skill practice |

Source: Gagne and Briggs, 1979

Appendix B Five Orientations to Learning

| <i>Aspect</i> | <i>Behaviorist</i> | <i>Cognitivist</i> | <i>Humanist</i> | <i>Social Learning</i> | <i>Constructivist</i> |
|---------------------------------|---|---|---|--|--|
| Learning theorists | Guthrie, Hull, Pavlov, Skinner, Thorndike, Tolman, Watson | Ausubel, Bruner, Gagne, Koffka, Kohler, Lewin, Piaget | Maslow, Rogers | Bandura, Rotter | Candy, Dewey, Lave, Piaget, Rogoff, von Glasersfeld, Vygotsky |
| View of the learning process | Change in behavior | Internal mental process (including insight, information processing, memory, perception) | A personal act to fulfill potential | Interaction with and observation of others in a social context | Construction of meaning from experience |
| Locus of learning | Stimuli in external environment | Internal cognitive structuring | Affective and cognitive needs | Interaction of person, behavior, and environment | Internal construction of reality by individual |
| Purpose of education | Produce behavioral change in desired direction | Develop capacity and skills to learn better | Become self-actualized, autonomous | Model new roles and behavior | Construct knowledge |
| Teacher's role | Arranges environment to elicit desired response | Structures content of learning activity | Facilitates development of whole person | Models and guides new roles and behavior | Facilitates and negotiates meaning with learner |
| Manifestation in adult learning | <ul style="list-style-type: none"> • Behavioral objectives • Competency-based education • Skill development and training | <ul style="list-style-type: none"> • Cognitive development • Intelligence, learning, and memory as function of age • Learning how to learn | <ul style="list-style-type: none"> • Andragogy • Self-directed learning | <ul style="list-style-type: none"> • Socialization • Social roles • Mentoring • Locus of control | <ul style="list-style-type: none"> • Experiential learning • Self-directed learning • Perspective transformation • Reflective practice |

Source: Merriam & Caffarella (1999), p. 164.

8 Appendices

Appendix C

Major categories of behavior considered improper or unethical for training and development professionals

| Major Categories of Behavior Considered Unethical | Typical Response |
|---|---|
| Lack of Professional Development | <ol style="list-style-type: none"> 1. "Not 'keeping up' – expanding their own knowledge." 2. "I've seen lots of 'good ol' boys' who are not educated in the training profession transferred into training." 3. "Application of 'technology' without understanding concepts, theory, etc." |
| Violation of Confidences | <ol style="list-style-type: none"> 4. "Breaking the trust of classroom participants." 5. "Relating information gathered in the classroom back to the organization." 6. "Identifying client deficiencies to others." 7. "Reporting information given in confidence." |
| Use of "Cure All" Programs | <ol style="list-style-type: none"> 8. "Consultants selling programs without any effort to even estimate the needs of the client." 9. "Continuing use of 'sacred cow' type programs when need for them is no longer valid." 10. "Continuation of programs long after they have served their purpose." |
| Dishonesty Regarding Program Outcomes | <ol style="list-style-type: none"> 11. "Concealing truth on program results." 12. "The assurance that a training program produced results when in fact it was only a good 'show'." 13. "Falsifying training records to make results look better than they are." |
| Failure to Give Credit | <ol style="list-style-type: none"> 14. "Failure to give credit for work done by others (includes materials, instruments, and even whole courses)." 15. "Not giving credit when using another's research." 16. "Illegal copies of printed and taped matter from existing suppliers' programs." 17. "Copyright violations." |
| Abuse of Trainees | <ol style="list-style-type: none"> 18. "Treating course participants as children." 19. "Treating training participants as 'lesser' individuals of little importance." 20. "Racist and sexist remarks." 21. "Use of profanity." 22. "Unwillingness to obtain input from the trainees." 23. "Using trainees to practice training techniques and exercises to meet trainer rather than group needs." 24. "Using sexual relations with seminar participants as a portion of training." |
| Other Improper Behavior | <ol style="list-style-type: none"> 25. "Consultants designing programs that give people what they want rather than what they need." 26. "Acting as entertainers rather than trainers." 27. "Lack of follow-up in order to see that programs are properly implemented after the classroom training." |

Sources: From "Unethical and Improper Behavior by Training and Development Professionals" by Clement, R. W., Pinto, P. R., & Walker, J. W. Reproduced by special permission from the December 1978 *Training and Development Journal*. Copyright 1978 by the American Society to Training and Development. All rights reserved.

Appendix D Training and Development Proposal

Date: April 25, 2003
Organization: Local Health Jurisdiction – Northern Clinic
Position(s): Public health clinic staff

- Initial Purpose:** The purpose of this training program is to teach our public health nurses to administer the smallpox vaccine and to teach smallpox vaccination clinic operations to clinic staff. This is necessary in order to implement the federally mandated smallpox pre-event vaccination program in the health district. The purpose of this program is to vaccinate teams of frontline healthcare workers prior to a smallpox outbreak. Evidence indicates that transmission of the disease could be reduced by 50% if frontline healthcare workers who come into contact with smallpox patients are vaccinated. Since routine vaccinations ceased 30 years ago and most of the target audience does not have experience with this vaccine, a training program is necessary. To complicate matters, this vaccine is administered very differently than any other vaccine, and due to the voluntary nature and potential adverse reactions to the vaccine, the clinic process includes a large amount of patient education, in-depth medical history, as well as legal forms. This training will include individual instruction in how to administer the vaccine, as well as the processes of implementing a vaccination clinic.
- Focus:** At this time, our clinic staff of 15 has the capacity to learn and implement this program, as they conduct vaccination clinics for other diseases and have an understanding of vaccination clinic operations. However, they feel pressed for time and fear that other services to the public will be interrupted. The Local Nursing Director and two other clinic staff have recently participated in a train the trainer session in how to administer the vaccine, adverse reactions, and clinic operations. They are available to teach these components of the course. The focus of this training will be to cross-train all staff in the following areas; 1) vaccine administration, 2) recognition and treatment of adverse events, 3) patient education, 4) vaccine storage & handling, and 5) clinic operations and processes.
- Measures:** Although our five nurses will be the only staff who will administer the vaccine in a pre-event situation, the first goal is to train all 15 clinic staff in vaccine administration in order to be better prepared for an outbreak. Competency in vaccine delivery will be demonstrated during the training and repeated every 6 months. Competencies in patient education, vaccine storage and handling, and clinic operations and processes will be demonstrated during the training in a role-play situation, and will be tested upon completion of the training. Competency will also be evaluated by the clinic manager during the implementation of the actual program. Corrective training will then be administered as needed.
- Needs:** The primary needs for adequate implementation of the smallpox vaccination program in our health district is to cross-train all clinic staff in the following areas; 1) vaccine administration, 2) recognition and treatment of adverse events, 3) patient education, 4) vaccine storage & handling, and 5) clinic operations and processes.

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Recommendations: First, it is recommended that a full task inventory be located or created for both the public health nurses and other clinic staff. Second, tasks specifically related to the above concerns will then be separated and analyzed separately in detail. Third, a training program should be designed and development on the tasks specifically related to this concern. Fourth, within the training program, individual lessons should be designed to meet the training needs. Along with this, evaluation measures at all levels should be created. When appropriate, pre-tests should be used before the training is implemented.

Benefits: The primary benefit is that the local health department clinic will be prepared to implement the smallpox vaccination program. Secondly, since this is an effective and efficient training will be prepared, it can be utilized as a model for the surrounding health districts. Task inventories can also be used to analyze other duties in this position. In addition, it can be used for future recruiting, compensation, and to design effective performance management systems for public health clinic staff. Nurses will feel empowered and more confident in responding to a smallpox outbreak and assist health departments in meeting federal and state requirements.

Appendix E **Sample Task Inventories and Job Descriptions**

Epidemiologist II

Effective Date: June 9, 2003
Location: Cannon Health Building
Department: Bureau of Epidemiology

Job Description

An Epidemiologist II is responsible for monitoring disease reports, analyzing disease patterns, and reporting clusters or patterns of diseases. He or she provides support to and training for local health department nurses with regard to the management of outbreaks, disease reporting, and protective actions. The epidemiologist also manages the database of reportable diseases. Other duties include participating in meetings, writing grants, performing statistical analysis, and acting as a liaison between CDC and local health department staff.

Task Inventory

1. Review all reportable disease reports from labs, clinicians, and Local Health Department (LHD) and looks for red flag diseases (those requiring immediate public health responses).
2. Call LHD to make sure they are aware of new cases and details control measures that should be implemented.
3. Verify that all control measures are followed.
4. Provide immediate response to nurses in local health department, hospitals and clinics.
5. Review case reports from LHD to verify accuracy and completeness of case investigations.
6. Verify that all cases meeting certain criteria are classified appropriately for surveillance purposes.
7. Communicate with state lab and other laboratories to verify disease report information.
8. Make sure the data in the database are accurate and complete.
9. Write grants.
10. Work with local public health nurses on outbreaks of disease (provides guidelines for control measures, assists with patient interviews, data management).
11. Complete statistical analysis of diseases reports to identify clusters or patterns and to detect outbreaks.
12. Train community health nurses on completing disease investigation forms and using a database.

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Appendices

13. Log every incoming call and logs information and caller so all reports are documented.
14. Communicate with CDC to verify appropriate information is included in weekly reports and yearly morbidity.
15. Ensure that certain specimens are sent to the state lab for identification and sub typing for surveillance purposes.
16. Extract and formats information from database for use in reports and presentations.

Microbiologist III

Location: 46 Medical Drive
 Department: Bureau of Microbiology, Division of Laboratory Services.
 Effective Date: June 18, 2003

Job Description

A Microbiologist III is responsible for performing rule out and type testing on organisms sent to the lab. He or she documents all tests performed and who performed them. In addition, he or she reports test results to the sample originators and inputs the information into a database used to track diseases. The Microbiologist also performs quality control checks on lab equipment and testing kits. Other duties include participating in meetings, educating other healthcare providers about lab capabilities, and working on outbreaks as needed.

Task Inventory

1. Attend committee meetings to share information on the state lab.
2. Prepare a PowerPoint presentation to present at committee meetings.
3. Examine samples for growth of organisms.
4. Perform rule out testing on samples to identify and type the organism.
5. Document what test were preformed, who preformed them, and the results of the test on the sample's card.
6. Monitor tests to assure organism is responding to tests.
7. Work an outbreak to identify the organisms.
8. Receive and logs phone calls.
9. Use database to verify cases for health departments, labs, and hospitals.
10. Send samples to CDC if they meet certain criteria and/or study requirements or the state can't perform the needed test.
11. Report results of testing to hospitals/health departments that sent the sample.
12. Attend bioterrorism meetings and receive training in safety and organism identification protocols.
13. Participate in quality assurance meetings.
14. Appropriately file reports (e.g. completed, received today, pending).
15. When rule out testing is completed, re-freeze sample so they can be used for future tests.
16. Perform quality control checks on testing kits.

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17. Perform quality control checks on lab equipment and room.
18. Document all test results on appropriate lab forms.
19. Prepare equipment for testing.
20. Rotate carrying the bioterrorism response pagers that operate 24/7 out of the lab.
21. Answer questions dealing with bacteriology.
22. Train others on bacteriology laboratory methods.

Appendix F

Sample Task Analyses - Procedural

Task: Coordinating Training is when you provide training information for the website, register for the training if necessary, and make sure all aspects of the training are coordinated. These training ranges from satellite broadcast to conference to onsite workshops. This task also includes promoting training by providing timely information to all stakeholders in public health.

Purpose Triage training announcements from multiple sources into Utah's Public Health Training Calendar

Approximate Task Time 30 Minutes

Procedure 1. Document training information.

A. If training information is received via email read information and go to the training website if it is available. If the training announcement is a flyer, save the flyer in training folder for the month the training is taking place.

B. Save original email in GroupWise folder for the month the training is scheduled.

2. Schedule a room for the on-site training (if off site go to Step 3).

A. Go into GroupWise and click on the schedule appointment button (envelope with clock).

B. Enter the room you would like to check on in the "To" field. Rooms at the Cannon building are entered by inputting HL Room 101 etc. Next enter the date and time of training.

C. Press busy button at bottom of the page to see if the room is available.

D. If room is already scheduled, delete room number and insert another room in the "To" field.

E. Repeat until you find an available room.

F. Once you find a room to accommodate the training, copy (CC) the Human Resource Secretary, Education & Training Project Lead and any other individuals who need to know about the training.

G. You will automatically receive two emails from the appointment scheduler, one of which confirms the room reservation. Save this email in the training sub-folder with the applicable month. The other email is sent for you to accept the appointment so it appears on your GroupWise calendar.

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3. *Provide training information for the website.*

- A. Open the template "Training Information Sheet" found in the training folder.
- B. Insert Event Title, Event Description, Date, Time, Location, Target Audience, Links/support information, Format, Production Agencies, and any other information into the form.
- C. Most of the above information can be found either on the training's website or flyer. If there is a website, insert the web address in the Links/Support Information area of the form. If there is a flyer, insert "see flyer titled (and title)".
- D. If any information on the training is not available, just leave that section of the form blank. For example if the training is a conference in another state, all you need to insert is the Event Title, Date, and the link to the conference Website. Detailed information sheets are only created for onsite training or a training UDOH is presenting.
- E. Save the training information sheet in the training folder. Title the sheet with the date of the training and then email the new training information sheet and flyer (if applicable) to the Webmaster

4. *Coordinate satellite broadcast (if training is not a satellite broadcast go to Step 5).*

- A. Email Technical Coordinator and verify that the satellite is available for the date and time of the broadcast. Let the Technical Coordinator know what room the broadcast will be in and ask him or her to tape the broadcast.
- B. Register with the production agency by following the directions listed on the initial training announcement. Registration usually takes place via the production agencies' website or by faxing a registration form.
- C. Send Technical Coordinator the satellite coordinates as soon as you get them. If the coordinates are sent via email save that email in the training sub-folder of the appropriate month. If the coordinates are on a web site or mailed to you, print and save a copy of the coordinates in the manila file for that months training.

5. *Market the training.*

- A. Once the training information you provided for the website has been posted on the bioterrorism website <http://health.utah.gov/BTtraining/>, go to the website and verify that all the information is correct.
- B. After you have verified that all the information is correct, send two different training announcements: 1) bioterrorism related training; 2) other general training.
 - 1) The bioterrorism related announcement is sent to the GroupWise mailing list titled "Training" found in the frequent contacts list. A template for this announcement can be found in my training file titled "Training Announcement." The training announcement should be updated with the training taking place that week or in the next few weeks. This announcement should be sent every Friday if there are bioterrorism training the next week or new postings on the website.

- 2) The general training announcement is sent to the Human Resource Secretary and he/she distributes it to all UDOH employees. This announcement is for all training taking place. This announcement is sent at least once month, and can be sent more often if a new training is posted. The template for this announcement is found in the training file titled "general announcement." This template should be updated with the current training that are taking place in the next month and then emailed to the Human Resource Secretary for distribution.
6. *Set-up for training.*
 - A. Make a sign to put outside the training room.
 - B. Post the sign identifying the training.
 - C. Ensure that the room is arranged in a way to accommodate the training.
 - D. If the training is a satellite broadcast turn the TV to Channel 8.
7. *If a satellite broadcast, disseminate tapes.*
 - A. Obtain copies of broadcast tapes from the Technical Coordinator.
 - B. Write the title and date of the broadcast on the tape.
 - C. Place the tape in Training Library. The Training Library is located in the files in the Training & Education Project Lead's office.
 - D. When a tape is requested, note who is taking the tape, their email address, and ask them to return it in two weeks. If you mail the tape, make a second copy of the tape for them to keep in their training files.

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Appendix G Training Program Design

Program Title: _____

Designer: _____ Date: _____

Available Analyses

| | | |
|-------------------|-----------------|-----------|
| Training Proposal | Task Analysis | # of each |
| Job Description | Procedure Tasks | _____ |
| Task Inventory | Systems Tasks | _____ |
| | Knowledge Tasks | _____ |

Design Factor

- What is the total number of trainees? _____
- What is the number of trainees per group? _____
- Describe the educational level of trainees? _____

- Describe the prior related training of trainees? _____

- Describe the work experience of trainees? _____

- How much time do you have to develop? _____
- Who do you have to assist (personnel competencies)? _____

- What media do you have available? _____
- What is your budget for the program? _____
- Where will the training be located? _____
- Who will be delivering the training? _____
- What are the dates of the training? _____

Program Segments – Lesson Titles

| Lesson Titles | Estimated Time |
|---------------|----------------|
| 1. | _____ |
| 2. | _____ |
| 3. | _____ |
| 4. | _____ |
| 5. | _____ |
| 6. | _____ |
| 7. | _____ |
| 8. | _____ |

*Adapted from Swanson, 1996.

Lesson Design and Plan

Lesson Title: _____
 Program Title: _____

Lesson Number: _____
 Date: _____
 Designer: _____

Design Considerations

1. List the student objectives for this lesson? (what, when, how)

2. Describe the readiness of the trainees. What is the starting point of the instruction and what will you do if you have students at different levels?

3. Describe how you will structure the lesson content and sequence the instruction.

4. Describe the learning methods and conditions.

5. Describe the rate of delivery, size of instructional pieces, and how and when you will have the trainees practice the knowledge and/or skills taught.

6. Describe the evaluation system, feedback, and reinforcement and rewards.

7. Describe any special concerns (include safety).

8. List and check required preparations (see examples).
 Trainee handouts
 Nametags
 Pencils and notepads
 Instructor notebook with supplies (disk, equipment)
 Food
 Room set-up
 Training reminders

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Lesson Outline

| Topics and Notes | Estimated Time |
|------------------|----------------|
| 1. | |
| 2. | |
| 3. | |
| 4. | |
| 5. | |
| 6. | |
| 7. | |
| 8. | |

Lesson Details

| Est. Time | Main Points | Details of Training |
|-----------|-------------|---------------------|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

*Adapted from Swanson, 1996.

Appendix H **Structured On-The-Job Training Outline**

Technical Training

1. Prepare the trainee
 - a. Explain the purpose and rationale of training.
 - b. Determine whether the trainee has the prerequisites.
 - c. Explain general safety and quality requirements.
 - d. Explain how training will be done.
 - e. Respond to questions about the training.
2. Present the training
 - a. Position the trainee.
 - b. Present an overview of the operation, equipment, or workflow.
 - c. Describe and show each behavior.
 - d. Explain specific safety and quality points.
 - e. Summarize the entire task.
3. Require a response
 - a. Ask the trainee to explain purpose and rationale.
 - b. Ask the trainee to present an overview.
 - c. Ask the trainee to explain general safety and quality requirements.
 - d. Ask the trainee to describe and show each behavior.
 - e. Ask the trainee to explain specific safety and quality points.
 - f. Ask the trainee to summarize the entire task.
4. Provide feedback
 - a. Inform the trainee about the correctness of the responses.
 - b. Provide coaching and guidance.
 - c. Point out embedded cues in the task setting.
5. Evaluate performance
 - a. Evaluate the trainee's self-report.
 - b. Evaluate test results.
 - c. Document the trainee's performance.

Source: Jacobs and Jones (1995), p. 112.

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Awareness Training

1. Prepare the trainee
 - a. Explain the purpose and rationale of training.
 - b. Determine whether the trainee has the prerequisites.
 - c. Explain general safety and quality requirements.
 - d. Explain how training will be done.
 - e. Respond to questions about the training.
2. Present the training
 - a. Position the trainee.
 - b. Present an overview of the topic or issue.
Inform
 - c. Explain the parts of the topic or issue.
 - d. Present examples of the topic or issue.
(Go to 3c)*Motivate*
 - e. Describe the present condition and its consequences.
 - f. Describe the desired condition and the associated opportunities.
 - g. Present examples of the desired condition.
 - h. Describe the implications for individuals and the organization.
 - i. Discuss commitment behaviors.
(Go to 3e)
3. Require a response
 - a. Ask the trainee to explain purpose and rationale.
 - b. Ask the trainee to present an overview of the topic or issue.
Inform
 - c. Ask the trainee to explain the parts of the topic in his or her own words.
 - d. Ask the trainee for examples of the topic.*Motivate*
 - e. Ask the trainee to describe the present condition and its consequences in his or her own words.
 - f. Ask the trainee to describe the desired condition and the associated opportunities.
 - g. Ask the trainee for examples of the desired condition.
 - h. Ask the trainee to discuss the implications for self and others.
 - i. Ask the trainee to describe commitment behaviors.
4. Provide feedback
 - a. Inform the trainee about the correctness of the responses.
 - b. Provide coaching and guidance.
 - c. Point out embedded cues.
5. Evaluate performance
 - a. Evaluate the trainee's self-report.
 - b. Evaluate the trainee's performance test results.
 - c. Document the trainee's performance.

Appendix I Training & Development Record – Epidemiology II

Employee: _____

| No. | Tasks | Notes of T& D Completed | Dates | Expertise Reached |
|-----|--|-------------------------|-------|-------------------|
| 1. | Review all reportable disease reports and looks for red flag diseases. | | | |
| 2. | Call LHDs to make sure they are aware of new cases and detail control measures that should be implemented. | | | |
| 3. | Verify that all control measures are followed. | | | |
| 4. | Provide immediate response to nurses in local health departments, hospitals and clinics. | | | |
| 5. | Review case reports from LHD to verify accuracy and completeness of case investigations. | | | |
| 6. | Verify that all cases meeting certain criteria are classified appropriately for surveillance purposes. | | | |
| 7. | Communicate with state lab and other laboratories to verify disease report information. | | | |
| 8. | Make sure the data in the database are accurate and complete. | | | |
| 9. | Write grants. | | | |
| 10. | Work with local public health nurses on outbreaks of disease. | | | |
| 11. | Complete statistical analysis of diseases reports to identify clusters or patterns and to detect outbreaks. | | | |
| 12. | Train community health nurses on completing disease investigation forms and using a database. | | | |
| 13. | Log every incoming call and logs information and caller so all reports are documented. | | | |
| 14. | Communicate with CDC to verify that appropriate information is included in weekly reports and yearly morbidity. | | | |
| 15. | Ensure that certain specimens are sent to the state lab for identification and sub typing for surveillance purposes. | | | |
| 16. | Extract and formats information from database for use in reports and presentations. | | | |

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Appendix J Department Training & Development Record – Epidemiology

Directions: Initial or date when an employee has completed each training lesson and/or program.

| Employee's Last Name | Task #1 Lesson A | Task #1 Lesson B | Task #1 Lesson C | Task #2 Lesson A | Task #2 Lesson B | Task #3 Lesson A | Task #3 Lesson B | Task #3 Lesson C | Task #4 Lesson A | Task #5 Lesson A | Task #5 Lesson B | Task #5 Lesson C | Task #5 Lesson D | Tasks 1-5 Complete |
|----------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|-----------------------|
| 1. | | | | | | | | | | | | | | |
| 2. | | | | | | | | | | | | | | |
| 3. | | | | | | | | | | | | | | |
| 4. | | | | | | | | | | | | | | |
| 5. | | | | | | | | | | | | | | |
| 6. | | | | | | | | | | | | | | |
| 7. | | | | | | | | | | | | | | |
| 8. | | | | | | | | | | | | | | |
| 9. | | | | | | | | | | | | | | |
| 10. | | | | | | | | | | | | | | |
| 11. | | | | | | | | | | | | | | |
| 12. | | | | | | | | | | | | | | |
| 13. | | | | | | | | | | | | | | |
| 14. | | | | | | | | | | | | | | |

Appendix K

Behavior Evaluation Supervisor Record of 2 Week Self-Reports

Program: Assertiveness Training—Enforcing Entrance Policies

Date reported: _____ **Report received by:** _____

Employee: _____

Record when employees give reports in person or by voice mail of two actual on-the-job situations the provided them the opportunity to try new assertiveness techniques.

| Employee | Date of Report | Short note about situation reported | Done X |
|----------|----------------|-------------------------------------|--------|
| 1. | 1. | 1. | |
| | 2. | 2. | |
| 2. | 1. | 1. | |
| | 2. | 2. | |
| 3. | 1. | 1. | |
| | 2. | 2. | |
| 4. | 1. | 1. | |
| | 2. | 2. | |
| 5. | 1. | 1. | |
| | 2. | 2. | |
| 6. | 1. | 1. | |
| | 2. | 2. | |
| 7. | 1. | 1. | |
| | 2. | 2. | |
| 8. | 1. | 1. | |
| | 2. | 2. | |
| 9. | 1. | 1. | |
| | 2. | 2. | |
| 10. | 1. | 1. | |
| | 2. | 2. | |
| 11. | 1. | 1. | |
| | 2. | 2. | |
| 12. | 1. | 1. | |
| | 2. | 2. | |
| 13. | 1. | 1. | |
| | 2. | 2. | |
| 14. | 1. | 1. | |
| | 2. | 2. | |
| 15. | 1. | 1. | |
| | 2. | 2. | |

Make specific notes on back if self-reporting produces deficiencies in understanding or applying training materials.

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Appendix L

Behavior Evaluation – 1 Month Observations

Program: Assertiveness Training—Enforcing Organizational Entrance Policies

Observation Date: _____ **Observer:** _____

Employee: _____

Task: Be assertive in enforcing entrance policies.

Standard: Successfully enforce entrance policies by checking in all individuals who enter the building in an assertive, thorough, accurate, and complete manner.

0 = Unsatisfactory 1 = Satisfactory 2 = Exceptional (check the boxes that apply)

| Observation Items | 0 | 1 | 2 | Criteria |
|--|---|---|---|---|
| Maintain appropriate assertive nonverbal communication | | | | Maintain direct eye contact, an erect, open, and relaxed posture, speak clearly and audibly, good voice quality, appropriate facial expressions and gestures. |
| Listen assertively | | | | Give speaker full attention. Ask for explanation if necessary. Let the speaker know he/she has been heard correctly. |
| Acknowledge and check in all who enter the building | | | | Acknowledge individual before he/she acknowledges the co-worker. Use appropriate procedures to check-in members, guests, prospective members, and visitors. |
| Use one or more assertive statements | | | | Includes the co-workers perspective, his/her feelings, and wants regarding a specific situation. |
| Refrain from using passive or aggressive communication | | | | Isn't confrontational and emotional. Isn't attacking or blames. Doesn't let people by "just to be nice". Isn't soft spoken or shy about issues that need to be addressed. |
| Probes the types of individuals who sometimes abuse entrance policies. | | | | Appears to recognize entrance policy problem individuals and uses tips to find out if they are rightfully entering. |
| Maintain alertness of entering individuals while busy with other duties (ex. telephone call) | | | | While on the phone or talking to someone, give eye contact as someone comes up. Reach out for security card. Continue to monitor what is happening in entrance area. |
| Handle any criticism assertively | | | | Use a method appropriate to the situation: acknowledgement, clouding, probing, or other. |
| Uses a special type of assertion statement (optional) | | | | Uses empathic assertion, escalating assertion, broken record, or momentary delay. |

0-6 = Unsatisfactory Performance (further training recommended)

7-9 = Satisfactory Performance

10-14 = Very Good Performance

15-18 = Exceptional Performance

Employee's Total: _____

Write other comments and notes on the back of this evaluation sheet.

Appendix M
Evaluation Plan

Training Program: Enforcing Entrance Policies: Assertiveness Training
Date Developed: _____

| <i>Training Level</i> | <i>Description of Evaluation and Instrument</i> | <i>Data Collection Timeline</i> |
|-----------------------|---|---------------------------------|
| 1. Reaction | | |
| 2. Learning | | |
| 3. Behavioral | | |
| 4. Results | | |

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Appendix N

Evaluation Compilation

Training Program: Enforcing Entrance Policies: Assertiveness Training

Date Begun: _____ **Date Completed:** _____

(Check or initial when employee has completed these evaluations)

| Trainee | Test and Trainee Survey | Two-week Self-report | One-month observation | Two-month follow-up training | Notes |
|---------|-------------------------|----------------------|-----------------------|------------------------------|-------|
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