Instructor Development Training Program

This packet has been developed to help you, the student instructor, prepare for the Idaho Instructor Development 40-hour certification course. Successful completion of this course is the first step in becoming a POST certified instructor.

Student Information:

1: This is a five (5) day (40 hour) course. Your attendance is *REQUIRED for the entire 40 hours* to receive credit for this course. There will be a POST roster to sign.

2: The hours for all five days will be about the same. Refer to the class agenda for scheduling.

3: This course will be graded by the following methods:
110 % Class Participation
Student Activities consist of:
Successful completion of the pre-course workbook
Various in-class group activities
Various in-class individual activities
A 20-minute presentation using skills learned in Instructor Development, to be given on Friday
A written lesson plan, using the POST lesson plan format for the 20-minute presentation given on Friday

4: **Student Material REQUIRED to bring for the course:**
One set of washable white board markers
Color markers/pens
One three ring (full size 8" x 11") notebook
Any other items or visual aids that are relevant to the subject you will be teaching, (i.e. video programs, handout material, slides presentation, stencils, rulers, hi-light markers, flip Chart, and any other materials needed to create visual aids). **Three visual aids will be required for your 20-minute presentation, so be sure to bring these to class with you.**
A thumb drive (not required, but recommended)

*   *Since you will be required to write a full sentence lesson plan for the 20-minute presentation that you will give on Friday, you should consider bringing a lap top computer and printer in order to complete this project and to use for taking notes during the week of the class. A rough draft of your lesson plan will be due on Friday. A final draft of your lesson plan will be due 30-days following class.*

5:   **Research materials/notes/books/etc-pertaining to the subject you will instructing on. (Also any props you may need for presentations.)**

6:   **Subjects: You will be teaching a 20 minute course that can be on ANY subject.**
> The subject can be law enforcement related, such as 'patrol procedures', 'traffic stops', 'crime prevention', etc.
> The subject can also be a non-law enforcement topic, such as fishing, kit flying, or any s such hobbies/interest you might have.

(Note: A rule of this class is to have fun, so we suggest you choose a non-law enforcement topic. When choosing your topic, you are limited by your own imagination and what is Legal, Ethical, and Moral. Regardless of whether you choose a law-enforcement or non-law enforcement topic, you will be expected to teach using the skills learned in class, so <u>do</u> <u>not</u> try to prepare the lesson plan before class starts! Also, you will not be allowed to lecture during your 20 minute presentation.)

7:   **Homework: You *will have homework*, so be prepared.**

8:   **Note taking: You *will be required* to take notes during the class.**

9:   **Dress standards: For the majority of the class, casual business wear is all that is needed. This is a very fun class, not one of those boring classes, where you sit and an instructor reads off information to you. There is a lot of hands-on, speaking, moving about, very informal.**

10:   **The attached Idaho Instructor Development Pre-course Workbook has been developed to give you a preview of some of the important topics covered throughout the week. Make sure you take the time to complete the entire workbook, as failure to do so will put you at a disadvantage in the class as well as those in your group.**

This class will be difficult and introduce you to some novel teaching techniques. Come with an open mind, come to have fun, and above all *COME TO LEARN!*

            See ya' there!

Instructor Development Training Program
Pre-course Student Workbook

The following workbook is to be completed by each student prior to the first day of class. The purpose of each reading assignment is to give students a preview of some of the important topics covered throughout the week. Make sure you take the time to complete the entire workbook, as failure to do so will put you at a disadvantage in the class as well as those in your group.

The following topics are covered in the pre-course workbook:

  1- Understanding Adult Students and the Learning Process (Knowles)
  2- Bloom's Taxonomy
  3- Non-verbal Communication and Paralanguage
  4- Kirkpatrick's Four Levels of Evaluation (how to evaluate training
       effectiveness)
  5- Tests, Exams, and Quizzes

Each of the topics above will begin with a reading assignment and will be followed by a questions sheet that must be completed.

P.O.S.T. Instructor Development Training Program
Adult-Based Learning – Level One
Pre-Read Article – Malcolm Knowles

2008 Edition

# Understanding Adult Students and the Learning Process:

Introduction:

Most of us remember sitting in a lecture listening to an instructor telling us about some subject for an hour or so, taking a short break, and then continuing the lecture for another hour or so. How well did we learn the material covered during this lecture? How much of this material do we remember today? The most likely answer to both questions is "little".

The situation just described did not take into consideration "how adults learn". The purpose of this article is to describe adult learning concepts, relate these concepts to practical adult training, and discuss how lessons can be structured to make good use of adult learning concepts.

Part of being an effective instructor involves understanding how adults learn best. Compared to children and teens, adults have special needs and requirements as learners. There are a number of theories about the learning process and styles of learning. Knowledge of a few basic concepts of learning theory will assist instructors in helping their students to learn. Adult learning theory, recognizes that adult learners bring a wealth of experience to the training environment. In addition, adult learners have a complex set of needs and presentation requirements that must be fulfilled for learning to occur. One of the most respected names in the theory and practice of adult learning—is Malcolm Knowles.

During this training program, we will be looking a Malcolm Knowles and his theories. They play a very important role in the Adult-Based Learning Principle.

Who is Malcolm Knowles?
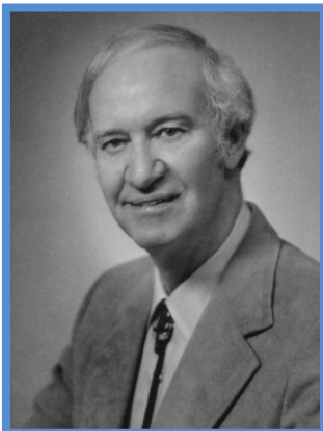
Malcolm Shepherd Knowles (1913 - 1997) was a, perhaps 'the', central figure in US adult education in the second half of the twentieth century. In the 1950s he was the Executive Director of the Adult Education Association of the United States of America. He wrote the first major accounts of informal adult education and the history of adult education in the United States. Furthermore, Malcolm Knowles' attempts to develop a distinctive conceptual basis for adult education and learning via the notion of using specific methods or techniques to teach adults (andragogy) became very widely discussed and used. He also wrote popular works on self-direction and on groupwork (with his wife Hulda). *His work was a significant factor in reorienting adult educators from 'educating people' to 'helping them learn'.*

Malcolm Knowles identified the following characteristics of adult learners:

Adults are autonomous and self-directed. They need to be free to direct themselves. Their teachers must actively involve adult participants in the learning process and serve as facilitators for them.

P.O.S.T. Instructor Development Training Program
Adult-Based Learning – Level One
Pre-Read Article – Malcolm Knowles

2008 Edition

Specifically, they must get participants' perspectives about what topics to cover and let them work on projects that reflect their interests. They should allow the participants to assume responsibility for presentations and group leadership. They have to be sure to act as facilitators, guiding participants to their own knowledge rather than supplying them with facts. Finally, they must show participants how the class will help them reach their goals (e.g., via a personal goals sheet).

Adults have accumulated a foundation of life experiences and knowledge that may include work-related activities, family responsibilities, and previous education. They need to connect learning to this knowledge/experience base. To help them do so, they should draw out participants' experience and knowledge which is relevant to the topic. They must relate theories and concepts to the participants and recognize the value of experience in learning.

Adults are goal-oriented. Upon enrolling in a course, they usually know what goal they want to attain. They, therefore, appreciate an educational program that is organized and has clearly defined elements. Instructors must show participants how this class will help them attain their goals. This classification of goals and course objectives must be done early in the course.

Adults are relevancy-oriented. They must see a reason for learning something. Learning has to be applicable to their work or other responsibilities to be of value to them. Therefore, instructors must identify objectives for adult participants before the course begins. This means, also, that theories and concepts must be related to a setting familiar to participants. This need can be fulfilled by letting participants choose projects that reflect their own interests.

Adults are practical, focusing on the aspects of a lesson most useful to them in their work. They may not be interested in knowledge for its own sake. Instructors must tell participants explicitly how the lesson will be useful to them on the job.

As do all learners, **adults need to be shown respect**. Instructors must acknowledge the wealth of experiences that adult participants bring to the classroom. These adults should be treated as equals in experience and knowledge and allowed to voice their opinions freely in class.

Application in the Adult-Based Learning Process:

How can these adult learning principles be applied to training sessions? Let's examine each one separately.

Adults need to know why they should learn something and must be ready to learn. This principle tells us that we need to provide a practical reason why the trainee should pay attention to the lesson. This reason must be stated at the beginning of the lesson, as part of the introduction, and relate the lesson content to their job. As will be mentioned in the section on lesson structure, the introduction to lesson is the most important part of a lesson. As an instructor you need to set the stage for the entire lesson in the

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Adult-Based Learning – Level One
Pre-Read Article – Malcolm Knowles

2008 Edition

first five minutes. Similarly, adults need to recognize that there is a gap between what they know and what they need to know. With recognition comes a readiness to fill that gap through a learning activity.

An adult learner's experience is a valuable resource for additional learning. If trainees have some experience with the lesson topic, it is good to have them share these experiences with the rest of the group. Because these experiences may be different from your experience, both you and the other students learn something new. Rejecting an adult learner's experience is equivalent to rejecting the adult as a person. This sharing process also helps to establish a good learning environment and enhances the "readiness to learn" mentioned in the first principle.

Adult learners tend to focus on life-centered, task-centered, or problem-centered learning activities. This principle tells us that adults want get something practical from their training sessions. That is, they want to be able to take what they learn back to their job or their personal life and use it as soon as possible. This statement tells us that if concepts and principles are discussed, they should be followed by practical exercises or case studies that illustrate the concept or principle.

Adult learners learn best when they practice, perform and work with new knowledge, skills and attitudes. Retention and understanding of new knowledge, skills and attitudes is best accomplished by using them over and over. There is a limit to the number of times something can be repeated during a lesson, but if a new ideas can be used and repeated through practical exercises or case studies, the probability of retention and understanding goes up.

Adult learners learn easiest what they have some familiarity with. This principle tells us that we should start with something familiar to the student and expand into new areas as the lesson progresses, eventually arriving at the objective of the lesson. The idea of building on established knowledge and skills is important. Lesson material must be sequenced properly to make this happen.

Adult learners favor different senses for learning. Studies have shown that some adults are visual learners, some are auditory learners, some are kinesthetic (or hands-on) learners, while others learn best through some combination of these. This fact means that an instructor should use a variety of delivery methods to ensure that all learners' optimum learning medium is used at some point during the lesson.

Adult learners like to be self-directing and see their own progress during a learning experience. It would be nice to allow students to select the topics they would like to have in a course. This approach, however, is not practical in most cases. Nevertheless, instructors need to recognize and respect the learners' need for self-direction. In many cases, instructors become facilitators rather than teachers. They must also avoid "talking down" to students. Similarly, adult learners like to feel that they are learning something during a training session. This feeling can be achieved through exercises and short oral reviews intermingled throughout the lesson. These exercises and short quizzes challenge students and allow them to check their ability to understand the material. These types of activities also allow the instructor to see if students have gained some understanding of the topic.

P.O.S.T. Instructor Development Training Program
Adult-Based Learning – Level One
Pre-Read Article – Malcolm Knowles

2008 Edition

Malcolm S. Knowles on informal adult education

The major problems of our age deal with human relations; the solutions can be found only in education. Skill in human relations is a skill that must be learned; it is learned in the home, in the school, in the church, on the job, and wherever people gather together in small groups.

This fact makes the task of every leader of adult groups real, specific, and clear: Every adult group, of whatever nature, must become a laboratory of democracy, a place where people may have the experience of learning to live co-operatively. Attitudes and opinions are formed primarily in the study groups, work groups, and play groups with which adults affiliate voluntarily. These groups are the foundation stones of our democracy. Their goals largely determine the goals of our society. Adult learning should produce at least these outcomes:

Adults should acquire a mature understanding of themselves. They should understand their needs, motivations, interests, capacities, and goals. They should be able to look at themselves objectively and maturely. They should accept themselves and respect themselves for what they are, while striving earnestly to become better.

Adults should develop an attitude of acceptance, love, and respect toward others. This is the attitude on which all human relations depend. Adults must learn to distinguish between people and ideas, and to challenge ideas without threatening people. Ideally, this attitude will go beyond acceptance, love, and respect, to empathy and the sincere desire to help others.

Adults should develop a dynamic attitude toward life. They should accept the fact of change and should think of themselves as always changing. They should acquire the habit of looking at every experience as an opportunity to learn and should become skillful in learning from it.

Adults should learn to react to the causes, not the symptoms, of behavior. Solutions to problems lie in their causes, not in their symptoms. We have learned to apply this lesson in the physical world, but have yet to learn to apply it in human relations.

Adults should acquire the skills necessary to achieve the potentials of their personalities. Every person has capacities that, if realized, will contribute to the well-being of himself and of society. To achieve these potentials requires skills of many kinds—vocational, social, recreational, civic, artistic, and the like. It should be a goal of education to give each individual those skills necessary for him to make full use of his capacities.

Adults should understand the essential values in the capital of human experience. They should be familiar with the heritage of knowledge, the great ideas, the great traditions, of the world in which they live. They should understand and respect the values that bind men together.

Adults should understand their society and should be skillful in directing social change. In a democracy the people participate in making decisions that affect the entire social order. It is imperative, therefore, that every factory worker, every salesman, every politician, every housewife, know enough

P.O.S.T. Instructor Development Training Program
Adult-Based Learning – Level One
Pre-Read Article – Malcolm Knowles

2008 Edition

about government, economics, international affairs, and other aspects of the social order to be able to take part in them intelligently.

The society of our age, as Robert Maynard Hutchins warns us, cannot wait for the next generation to solve its problems. Time is running out too fast. Our fate rests with the intelligence, skill, and good will of those who are now the citizen-rulers. The instrument by which their abilities as citizen-rulers can be improved is adult education. This is our problem. This is our challenge.

Malcolm S. Knowles (1950) *Informal Adult Education*, Chicago: Association Press, pages 9-10.

Conclusion

Malcolm S. Knowles was responsible for a number of important 'firsts'.. He was the first to chart the rise of the adult education movement in the United States; the first to develop a statement of informal adult education practice; and the first to attempt a comprehensive theory of adult education (via the notion of andragogy). Jarvis (1987: 185) comments:

As a teacher, writer and leader in the field, Knowles has been an innovator, responding to the needs of the field as he perceived them and, as such, he has been a key figure in the growth and practice of adult education throughout the Western world this century. Yet above all, it would be perhaps fair to say that both his theory and practice have embodied his own value system and that is contained within his formulations of andragogy.

Much of his writing was descriptive and lacked a sharp critical edge. He was ready to change his position - but the basic trajectory of his thought remained fairly constant throughout his career. His focus was increasingly on the delineation of a field of activity rather than on social change - and there was a significantly individualistic focus in his work. *'I am just not good',* he wrote, *'at political action. My strength lies in creating opportunities for helping individuals become more proficient practitioners'* (Knowles 1989)

References

Knowles, Malcom, 1990: The Adult Learner, The Neglected Species. Gulf Publishing Co., Houston, 292 pp.

Mitchell, Garry. 1993: The Trainer's Handbook, The AMA Guide to Effective Training, 2nd Edition. AMACOM, New York, 423 pp.

Pike, Robert W., 1994: Creative Training Techniques Handbook, Tips, Tactics, and How-To's for Delivering Effective Training. Lakewood Books, 197 pp.

Knowles, M. S. (1950) *Informal Adult Education*, New York: Association Press. Guide for educators based on the writer's experience as a programme organizer in the YMCA.

Knowles, M. S. (1962) *A History of the Adult Education Movement in the USA*, New York: Krieger. A revised edition was published in 1977.

Pre-Read Work Sheet: Knowles – Adult Learning

Use the following "3 – 2 – 1 Review Strategy":

3:   **List three points that captured your attention:**

γ _____
_____
_____

γ _____
_____
_____

γ _____
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2:   **List two questions you have as a result of reading the article.**

γ _____
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γ _____
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1:   **Describe one "big idea" or the "Most Important Point" (MIP) you learned, realized or can use.**

γ _____
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BLOOM'S TAXONOMY

In 1956, Benjamin Bloom headed a group of educational psychologists who developed a classification of levels of intellectual behavior important in learning. Bloom found that over 95 % of the test questions students encounter require them to think only at the lowest possible level...the recall of information.

Bloom identified six levels within the cognitive domain, from the simple recall or recognition of facts, as the lowest level, through increasingly more complex and abstract mental levels, to the highest order which is classified as evaluation. Verb examples that represent intellectual activity on each level are listed here.

Bloom's Taxonomy
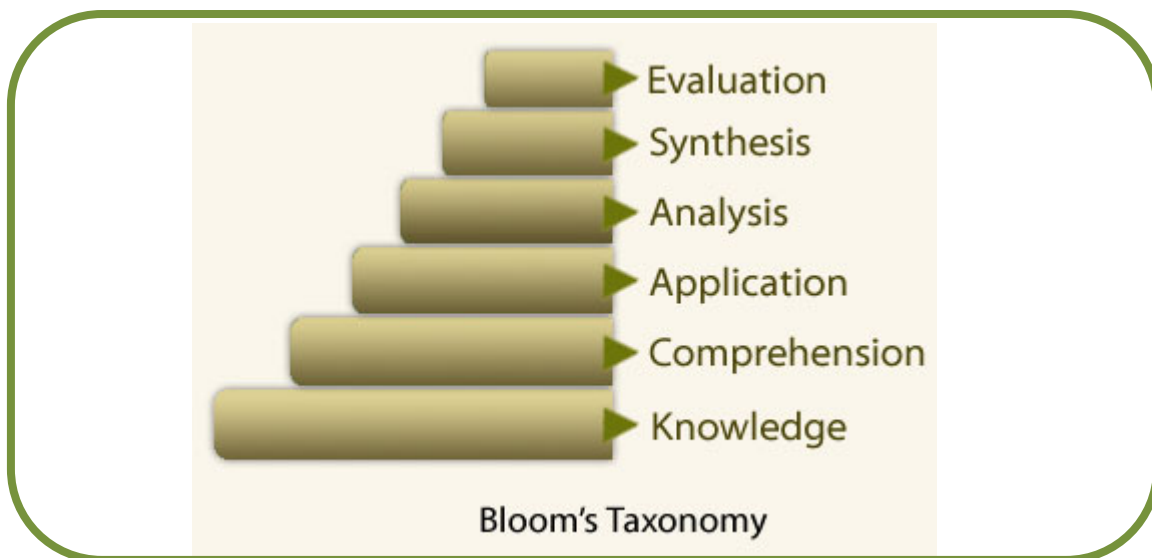
1. **Knowledge**: arrange, define, duplicate, label, list, memorize, name, order, recognize, relate, recall, repeat, reproduce state.
2. **Comprehension**: classify, describe, discuss, explain, express, identify, indicate, locate, recognize, report, restate, review, select, translate,
3. **Application**: apply, choose, demonstrate, dramatize, employ, illustrate, interpret, operate, practice, schedule, sketch, solve, use, write.
4. **Analysis**: analyze, appraise, calculate, categorize, compare, contrast, criticize, differentiate, discriminate, distinguish, examine, experiment, question, test.
5. **Synthesis**: arrange, assemble, collect, compose, construct, create, design, develop, formulate, manage, organize, plan, prepare, propose, set up, write.
6. **Evaluation**: appraise, argue, assess, attach, choose compare, defend estimate, judge, predict, rate, core, select, support, value, evaluate.

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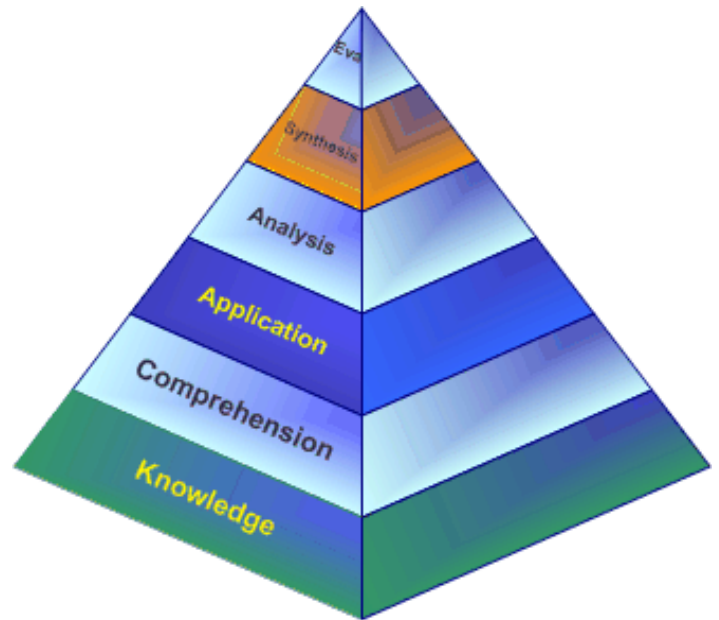**Adult-Based Learning – Level One**
Pre-Read Article – Bloom's

2008 Edition

As teachers we tend to ask questions in the "knowledge" catagory 80% to 90% of the time. These questions are not bad, but using them all the time is. Try to utilize higher order level of questions. These questions require much more "brain power" and a more extensive and elaborate answer. Below are the six question categories as defined by Bloom.

- **KNOWLEDGE**
    - remembering;
    - memorizing;
    - recognizing;
    - recalling identification and
    - recall of information
        - Who, what, when, where, how ...?
        - Describe
- **COMPREHENSION**
    - interpreting;
    - translating from one medium to another;
    - describing in one's own words;
    - organization and selection of facts and ideas
        - Retell...
- **APPLICATION**
    - problem solving;
    - applying information to produce some result;
    - use of facts, rules and principles
        - How is...an example of...?
        - How is...related to...?
        - Why is...significant?
- **ANALYSIS**
    - subdividing something to show how it is put together;
    - finding the underlying structure of a communication;
    - identifying motives;
    - separation of a whole into component parts
        - What are the parts or features of...?
        - Classify...according to...
        - Outline/diagram...
        - How does...compare/contrast with...?
        - What evidence can you list for...?

Bloom's Taxonomy

- **SYNTHESIS**
  - creating a unique, original product that may be in verbal form or may be a physical object;
  - combination of ideas to form a new whole
    - What would you predict/infer from...?
    - What ideas can you add to...?
    - How would you create/design a new...?
    - What might happen if you combined...?
    - What solutions would you suggest for...?
- **EVALUATION**
  - making value decisions about issues;
  - resolving controversies or differences of opinion;
  - development of opinions, judgements or decisions
    - Do you agree...?
    - What do you think about...?
    - What is the most important...?
    - Place the following in order of priority...
    - How would you decide about...?
    - What criteria would you use to assess...?

Learning Domains or Bloom's Taxonomy

The Three Types of Learning

There is more than one type of learning. A committee of colleges, led by Benjamin Bloom, identified three domains of educational activities:

- **Cognitive**: mental skills (*Knowledge*)
- **Affective**: growth in feelings or emotional areas (*Attitude*)
- **Psychomotor**: manual or physical skills (*Skills*)

Cognitive

The cognitive domain involves knowledge and the development of intellectual skills. This includes the recall or recognition of specific facts, procedural patterns, and concepts that serve in the development of intellectual abilities and skills. There are six major categories, which are listed in order below, starting from the simplest behavior to the most complex. The categories can be thought of as degrees of difficulties. That is, the first one must be mastered before the next one can take place.

Category	Example and Key Words
Knowledge: Recall data or information.	**Examples**: Recite a policy. Quote prices from memory to a customer. Knows the safety rules. **Key Words**: defines, describes, identifies, knows, labels, lists, matches, names, outlines, recalls, recognizes, reproduces, selects, states.
Comprehension: Understand the meaning, translation, interpolation, and interpretation of instructions and problems. State a problem in one's own words.	**Examples**: Rewrites the principles of test writing. Explain in one's own words the steps for performing a complex task. Translates an equation into a computer spreadsheet. **Key Words**: comprehends, converts, defends, distinguishes, estimates, explains, extends, generalizes, gives **Examples**, infers, interprets, paraphrases, predicts, rewrites, summarizes, translates.
Application: Use a concept in a new situation or unprompted use of an abstraction. Applies what was learned in the classroom into novel situations in the work place.	**Examples**: Use a manual to calculate an employee's vacation time. Apply laws of statistics to evaluate the reliability of a written test. **Key Words**: applies, changes, computes, constructs, demonstrates, discovers, manipulates, modifies, operates, predicts, prepares, produces, relates, shows, solves, uses.
Analysis: Separates material or concepts into component parts so that its organizational structure may be understood. Distinguishes between facts and inferences.	**Examples**: Troubleshoot a piece of equipment by using logical deduction. Recognize logical fallacies in reasoning. Gathers information from a department and selects the required tasks for training. **Key Words**: analyzes, breaks down, compares, contrasts, diagrams, deconstructs, differentiates, discriminates, distinguishes, identifies, illustrates, infers, outlines, relates, selects, separates.
Synthesis: Builds a structure or pattern from diverse elements. Put parts together to form a whole, with emphasis on creating a new meaning or structure.	**Examples**: Write a company operations or process manual. Design a machine to perform a specific task. Integrates training from several sources to solve a problem. Revises and process to improve the outcome. **Key Words**: categorizes, combines, compiles, composes, creates,

	devises, designs, explains, generates, modifies, organizes, plans, rearranges, reconstructs, relates, reorganizes, revises, rewrites, summarizes, tells, writes.
Evaluation: Make judgments about the value of ideas or materials.	**Examples**: Select the most effective solution. Hire the most qualified candidate. Explain and justify a new budget. **Key Words**: appraises, compares, concludes, contrasts, criticizes, critiques, defends, describes, discriminates, evaluates, explains, interprets, justifies, relates, summarizes, supports.

Affective

This domain includes the manner in which we deal with things emotionally, such as feelings, values, appreciation, enthusiasms, motivations, and attitudes. The five major categories listed the simplest behavior to the most complex:

Category	Example and Key Words
Receiving Phenomena: Awareness, willingness to hear, selected attention.	**Examples**: Listen to others with respect. Listen for and remember the name of newly introduced people. **Key Words**: asks, chooses, describes, follows, gives, holds, identifies, locates, names, points to, selects, sits, erects, replies, uses.
Responding to Phenomena: Active participation on the part of the learners. Attends and reacts to a particular phenomenon. Learning outcomes may emphasize compliance in responding, willingness to respond, or satisfaction in responding (motivation).	**Examples**: Participates in class discussions. Gives a presentation. Questions new ideals, concepts, models, etc. in order to fully understand them. Know the safety rules and practices them. **Key Words**: answers, assists, aids, complies, conforms, discusses, greets, helps, labels, performs, practices, presents, reads, recites, reports, selects, tells, writes.
Valuing: The worth or value a person attaches to a particular object, phenomenon, or behavior. This ranges from simple acceptance to the more complex state of commitment. Valuing is based on the	**Examples**: Demonstrates belief in the democratic process. Is sensitive towards individual and cultural differences (value diversity). Shows the ability to solve problems. Proposes a plan to social improvement and follows through with commitment. Informs management on matters that one feels strongly about.

internalization of a set of specified values, while clues to these values are expressed in the learnerís overt behavior and are often identifiable.	**Key Words**: completes, demonstrates, differentiates, explains, follows, forms, initiates, invites, joins, justifies, proposes, reads, reports, selects, shares, studies, works.
Organization: Organizes values into priorities by contrasting different values, resolving conflicts between them, and creating an unique value system. The emphasis is on comparing, relating, and synthesizing values.	**Examples**: Recognizes the need for balance between freedom and responsible behavior. Accepts responsibility for one's behavior. Explains the role of systematic planning in solving problems. Accepts professional ethical standards. Creates a life plan in harmony with abilities, interests, and beliefs. Prioritizes time effectively to meet the needs of the organization, family, and self. **Key Words**: adheres, alters, arranges, combines, compares, completes, defends, explains, formulates, generalizes, identifies, integrates, modifies, orders, organizes, prepares, relates, synthesizes.
Internalizing values (characterization): Has a value system that controls their behavior. The behavior is pervasive, consistent, predictable, and most importantly, characteristic of the learner. Instructional objectives are concerned with the student's general patterns of adjustment (personal, social, emotional).	**Examples**: Shows self-reliance when working independently. Cooperates in group activities (displays teamwork). Uses an objective approach in problem solving. Displays a professional commitment to ethical practice on a daily basis. Revises judgments and changes behavior in light of new evidence. Values people for what they are, not how they look. **Key Words**: acts, discriminates, displays, influences, listens, modifies, performs, practices, proposes, qualifies, questions, revises, serves, solves, verifies.

Psychomotor

The psychomotor domain includes physical movement, coordination, and use of the motor-skill areas. Development of these skills requires practice and is measured in terms of speed, precision, distance, procedures, or techniques in execution. The seven major categories listed the simplest behavior to the most complex:

Category	Example and Key Words
Perception: The ability to use sensory cues to guide motor activity. This ranges from sensory stimulation,	**Examples**: Detects non-verbal communication cues. Estimate where a ball will land after it is thrown and then moving to the correct location to catch the ball. Adjusts heat of stove to correct

through cue selection, to translation.	temperature by smell and taste of food. Adjusts the height of the forks on a forklift by comparing where the forks are in relation to the pallet. **Key Words**: chooses, describes, detects, differentiates, distinguishes, identifies, isolates, relates, selects.
Set: Readiness to act. It includes mental, physical, and emotional sets. These three sets are dispositions that predetermine a personís response to different situations (sometimes called mindsets).	**Examples**: Knows and acts upon a sequence of steps in a manufacturing process. Recognize one's abilities and limitations. Shows desire to learn a new process (motivation). NOTE: This subdivision of Psychomotor is closely related with the "Responding to phenomena" subdivision of the Affective domain. **Key Words**: begins, displays, explains, moves, proceeds, reacts, shows, states, volunteers.
Guided Response: The early stages in learning a complex skill that includes imitation and trial and error. Adequacy of performance is achieved by practicing.	**Examples**: Performs a mathematical equation as demonstrated. Follows instructions to build a model. Responds hand-signals of instructor while learning to operate a forklift. **Key Words**: copies, traces, follows, react, reproduce, responds
Mechanism: This is the intermediate stage in learning a complex skill. Learned responses have become habitual and the movements can be performed with some confidence and proficiency.	**Examples**: Use a personal computer. Repair a leaking faucet. Drive a car. **Key Words**: assembles, calibrates, constructs, dismantles, displays, fastens, fixes, grinds, heats, manipulates, measures, mends, mixes, organizes, sketches.
Complex Overt Response: The skillful performance of motor acts that involve complex movement patterns. Proficiency is indicated by a quick, accurate, and highly coordinated performance, requiring a minimum of energy. This category includes performing without hesitation, and automatic performance. For example, players are often utter sounds of satisfaction or expletives as soon as they hit a tennis ball or throw a football, because they	**Examples**: Maneuvers a car into a tight parallel parking spot. Operates a computer quickly and accurately. Displays competence while playing the piano. **Key Words**: assembles, builds, calibrates, constructs, dismantles, displays, fastens, fixes, grinds, heats, manipulates, measures, mends, mixes, organizes, sketches. NOTE: The Key Words are the same as Mechanism, but will have adverbs or adjectives that indicate that the performance is quicker, better, more accurate, etc.

can tell by the feel of the act what the result will produce.	
Adaptation: Skills are well developed and the individual can modify movement patterns to fit special requirements.	**Examples**: Responds effectively to unexpected experiences. Modifies instruction to meet the needs of the learners. Perform a task with a machine that it was not originally intended to do (machine is not damaged and there is no danger in performing the new task). **Key Words**: adapts, alters, changes, rearranges, reorganizes, revises, varies.
Origination: Creating new movement patterns to fit a particular situation or specific problem. Learning outcomes emphasize creativity based upon highly developed skills.	**Examples**: Constructs a new theory. Develops a new and comprehensive training programming. Creates a new gymnastic routine. **Key Words**: arranges, builds, combines, composes, constructs, creates, designs, initiate, makes, originates.

BLOOM'S TAXONOMY - LEARNING IN ACTION

Pre-Read Worksheet: Bloom's Taxonomy

Use the following "3 – 2 – 1 Review Strategy":

3:   **List three points that captured your attention:**

γ _____
_____
_____

γ _____
_____
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γ _____
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2:   **List two questions you have as a result of reading the article.**

γ _____
_____
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γ _____
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1:   **Describe one "big idea" or the "Most Important Point" (MIP) you learned, realized or can use.**

γ _____
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Non-verbal Communication and Paralanguage

Vicki Ritts, St. Louis Community College at Florissant Valley and James R. Stein, Southern Illinois University, Edwardsville.

It is not only what you say in the classroom that is important, but it's how you say it that can make the difference to students. Nonverbal messages are an essential component of communication in the teaching process.

Instructors should be aware of nonverbal behavior in the classroom for three major reasons:

- An awareness of nonverbal behavior will allow you to become better receivers of students' messages.
- You will become a better sender of signals that reinforce learning.
- This mode of communication increases the degree of the perceived psychological closeness between teacher and student.

Eye contact:

Eye contact, an important channel of interpersonal communication, helps regulate the flow of communication. And it signals interest in others. Furthermore, eye contact with audiences increases the speaker's credibility. Teachers who make eye contact open the flow of communication and convey interest, concern, warmth and credibility.

Facial expressions:

Smiling is a powerful cue that transmits:

- Happiness
- Friendliness
- Warmth
- Liking
- Affiliation

Thus, if you smile frequently you will be perceived as more likable, friendly, warm and approachable. Smiling is often contagious and students will react favorably and learn more.

**Trust me! Would I lie to you?**

Gestures:

If you fail to gesture while speaking, you may be perceived as boring, stiff and unanimated. A lively and animated teaching style captures students' attention, makes the material more interesting, facilitates learning and provides a bit of entertainment. Head nods, a form of gestures, communicate positive reinforcement to students and indicate that you are listening.

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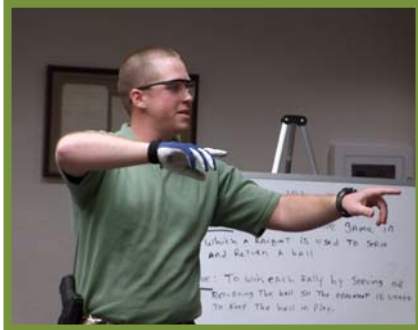
Posture and body orientation:

You communicate numerous messages by the way you walk, talk, stand and sit. Standing erect, but not rigid, and leaning slightly forward communicates to students that you are approachable, receptive and friendly. Furthermore, interpersonal closeness results when you and your students face each other. Speaking with your back turned or looking at the floor or ceiling should be avoided; it communicates disinterest to your class.

Proximity:

Cultural norms dictate a comfortable distance for interaction with students. You should look for signals of discomfort caused by invading students' space. Some of these are:

- Rocking
- Leg swinging
- Tapping
- Gaze aversion

Typically, in large classes space invasion is not a problem. In fact, there is usually too much distance. To counteract this, move around the classroom to increase interaction with your students. Increasing proximity enables you to make better eye contact and increases the opportunities for students to speak.

Humor:

Now, that's funny!

Humor is often overlooked as a teaching tool, and it is too often not encouraged in the classrooms. Laughter releases stress and tension for both instructor and student. You should develop the ability to laugh at yourself and encourage students to do the same. It fosters a friendly classroom environment that facilitates learning. (Lou Holtz wrote that when his players felt successful he always observed the presence of good humor in the locker room.)

Obviously, adequate knowledge of the subject matter is crucial to your success; however, it's not the only crucial element. Creating a climate that facilitates learning and retention demands good nonverbal and verbal skills. To improve your nonverbal skills, record your speaking on video tape. Then ask a colleague in communications to suggest refinements.

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Paralinguistics: (Paralanguage)

Definitions:

- Features that accompany speech and contribute to communication but are not considered part of the language system

- The nonverbal voice qualities, modifiers, and sounds which we use consciously or unconsciously supporting or contradicting the linguistic, kinesic, or proxemic messages either simultaneously or alternating with them

- How something is said rather than what is said

- Vocal Cues

General Information:

Paralanguage is part of nonverbal communication. Paralinguistics are what accompany your words to make up its true meaning. Research on the tone of voice emerged in 1951 by George Trager and Henry Lee Smith and was followed with research of other aspects of paralanguage.

We all know that what you say can have several different meanings depending on how you say it. Take the notion of sarcasm, for instance. If someone says something with a sarcastic tone, it makes the meaning of what has been said be the complete opposite of what the words actually mean.

Paralanguage can be a confusing factor in intercultural communication. For example, Europeans interpret the loudness of Americans to aggressive behavior, while Americans might think the British are secretive because they talk quietly. Talking speed and the amount of silence in conversations also differ among cultures. For instance, the Japanese are comfortable having several pauses in their conversations, while Americans and many Arabic people are uncomfortable with any silence.

Ingredients of Paralanguage:

This facet of nonverbal communication includes such vocal elements as:

- Tone
- Pitch Range
- Rhythm Control
- Timbre (Tempo)
- Loudness
- Inflection

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- Vocal lip control
- Articulation control
- Resonance

For maximum teaching effectiveness, learn to vary these nine elements of your voice. Instructors who speak in a monotone voice are often criticized. Listeners perceive these instructors as boring and dull. Students report that they learn less and lose interest more quickly when listening to teachers who have not learned to modulate their voices.

Voice Qualities:

Vocal Characteristics:

- laughing, crying, whispering, snoring, yelling, moaning, groaning, yawning, whining, sucking, sneezing, sighing, belches, hiccups
- Remember that these characteristics are the vocal aspects of these actions, so imagine that these pictures are making noises.
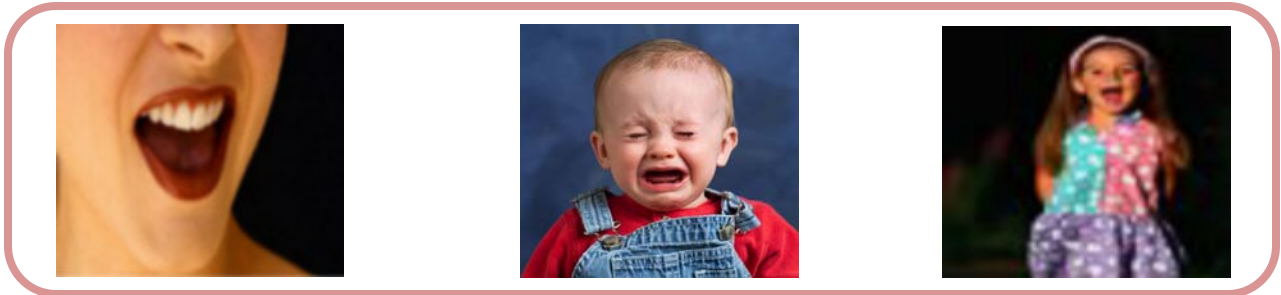
Voice Qualifiers:

- intensity (overloud, over-soft)
- pitch height
- extent

Vocal Segregates: (Social Utterances)

examples:	Sounds:	"ah" "um" "uh-huh"
	Words:	"okay" "you know" "by the way"
	No Words or Sounds:	the silent pauses

Messages in the Voice:

Phrases have different messages depending on what parts we emphasize. For instance, take the sentence, "She's giving this money to me."

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- ***She's*** giving this money to me.
  SHE is the one giving the money, nobody else.
- She's ***giving*** this money to me.
  She is GIVING, not lending.
- She's giving this ***money*** to me.
  MONEY is being exchanged, not anything else.
- She's giving this money to ***me***.
  I am getting the money, nobody else.

The voice is used to infer personality traits.

- An increased rate of speaking generally infers that the individual is more animated and extroverted.
- A flatness in the tone of voice generally indicates more withdrawn and masculine characteristics.
- A nasal sound in one's voice is generally thought of to be undesirable.

The voice is also used to infer emotional states.

Feeling	Loudness	Pitch	Timbre	Rate	Enunciation
Anger	Loud	High	Blaring	Fast	clipped
Joy	Loud	High	Moderately Blaring	Fast	Somewhat Clipped
Sadness	Soft	Low	Resonant	Slow	Slurred

- Paralanguage contains much of the meaning in our communication
- All of us are aware that the meaning of what we say is contained, in part, in the words, or what we say, but that HOW we say things also contains powerful messages. The word, "Yes", for example, can mean completely different things (even in the exact same sentence), depending on HOW it is said.
- "How" something is said is referred to as paralanguage, which includes intonation, emphasis, word and syllable stress, and so on. Specifically, paralanguage can be broken down as follows:

1- Vocal Qualifiers

- The non-technical term, tone of voice, means the same thing as vocal qualifiers. There are various things that can vary, and that affect our perception of tone of voice; increasing loudness or softness (of a syllable, word phrase or sentence) is one obvious one.
- A second set of vocal qualifiers involves raised or lowered pitch, which can convey things like fear, anxiety or tenseness, or designate a question.
- Third, there's spread register and squeezed register which refers to the spreading or compressing of the time interval between the pitches when one speaks.

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- Another is rasp, or openness, which has to due to with the muscular tensions in the larynx when someone speaks. A tenseness will result in a more raspy type of utterance for example, a kind of choked sound, while openness is the opposite.
- Then there's drawling or clipping which is associated somewhat with accent, and whether the speaker is drawing out individual syllables or clipping them. This is most noticeable if you compare a native English speaker to someone who has learned French, or German first.
- Finally, tempo can be increased or decreased. Speaking quickly tends to communicate urgency or a high emotional state. Slow tempos give the impression of uncertainty. It's worth nothing that interpreting all of these vocal qualifiers requires knowing the speaker's baseline communication.

2- Vocal Differentiators

- This category of paralanguage refers to another way that how one says something can be influence by how it is said. Examples of vocal differentiators are crying, laughing and breaking, where breaking refers to speaking in a broken or halting manner. Clearly a phrase uttered by a crying person will mean something different than once said by a laughing person.

3- Vocal Identifiers:

- These refer to the small sounds we make that are not necessarily words per se, but have meaning. For example, ah-hah, un-huh, and huh-uh.

- All of these non-verbal (but tied to the voice) characteristics strongly affect how something is extracted by the other person, and how we interpret the words. They provide an additional context, and a very important one. The key here is that we need to understand that how we say things can be more important than what we say. When looking to diagnose conflict, always look at these to determine if the how is the cause, rather than the what.

Bibliography:

Web Sources:

http://www.doleos.demon.co.uk/net.speak/chapter3.html
http://ic.intermundo.net/faq/paralinguistics.shtml
http://www.cultsock.ndirect.co.uk/MUHome/cshtml/nvc/nvc6.html

Book Sources:

- Kendon, Adam; Harris, Richard M.; and Key, Mary Ritchie. *Organization of Behavior in Face-to-Face Interaction*. Mouton & Co., 1975.

P.O.S.T. Instructor Development Training Program
Adult-Based Learning – Level One
Pre-Read Article - Paralanguage

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- Key, Mary Ritchie. *Paralanguage and Kinesics (Nonverbal Communication)*. Metuchen, N.J.: The Scarecrow Press, Inc., 1975.
- Knapp, Mark L. *Nonverbal Communication in Human Interaction*. Holt, Rinehart and Winston, Inc., 1972.
- Rosenfeld, Lawrence B. and Civikly, Jean M. *With Words Unspoken: The Nonverbal Experience*. Holt, Rinehart and Winston, 1976.
- Trenholm, Sarah and Jensen, Arthur. *Interpersonal Communication*. Wadsworth, Inc., 1988.
- *Webster's College Dictionary*. "Paralanguage." New York: Random House, 1996.

Pre-Read Work Sheet: Non-Verbal Communication & Paralanguage

Use the following "3 – 2 – 1 Review Strategy":

3:   **List three points that captured your attention:**

γ _____
   _____
   _____

γ _____
   _____
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γ _____
   _____
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2:   **List two questions you have as a result of reading the article.**

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   _____
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γ _____
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1:   **Describe one "big idea" or the "Most Important Point" (MIP) you learned,
realized or can use.**

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Kirkpatrick's Four Levels of Evaluation

In Kirkpatrick's four-level model, each successive evaluation level is built on information provided by the lower level.

ASSESSING TRAINING EFFECTIVENESS often entails using the four-level model developed by Donald Kirkpatrick (1994). According to this model, evaluation should always begin with level one, and then, as time and budget allows, should move sequentially through levels two, three, and four. Information from each prior level serves as a base for the next level's evaluation. Thus, each successive level represents a more precise measure of the effectiveness of the training program, but at the same time requires a more rigorous and time-consuming analysis.

Level 1 Evaluation - Reactions

Just as the word implies, evaluation at this level measures how participants in a training program react to it. It attempts to answer questions regarding the participants' perceptions - Did they like it? Was the material relevant to their work? This type of evaluation is often called a "smilesheet." According to Kirkpatrick, every program should at least be evaluated at this level to provide for the improvement of a training program. In addition, the participants' reactions have important consequences for learning (level two). Although a positive reaction does not guarantee learning, a negative reaction almost certainly reduces its possibility.
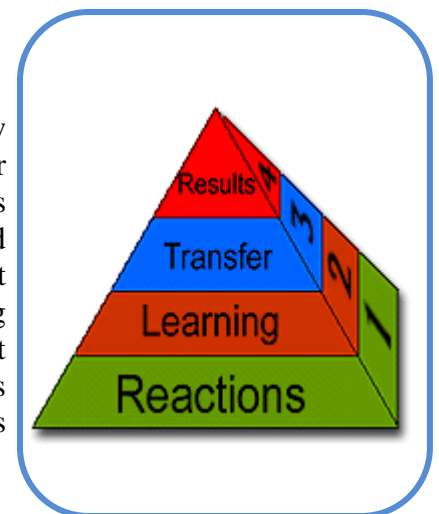
Level 2 Evaluation - Learning

Comparison of Test Performance
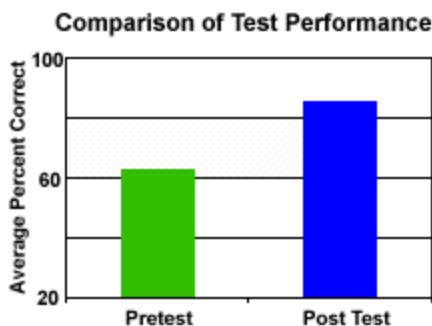
To assess the amount of learning that has occurred due to a training program, level two evaluations often use tests conducted before training (pretest) and after training (post test).

Assessing at this level moves the evaluation beyond learner satisfaction and attempts to assess the extent students have advanced in skills, knowledge, or attitude. Measurement at this level is more difficult and laborious than level one. Methods range from formal to informal testing to team assessment and self-assessment. If possible, participants take the test or assessment before the training (pretest) and after training (post test) to determine the amount of learning that has occurred.

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Level 3 Evaluation - Transfer

This level measures the transfer that has occurred in learners' behavior due to the training program. Evaluating at this level attempts to answer the question - Are the newly acquired skills, knowledge, or attitude being used in the everyday environment of the learner? For many trainers this level represents the truest assessment of a program's effectiveness. However, measuring at this level is difficult as it is often impossible to predict when the change in behavior will occur, and thus requires important decisions in terms of when to evaluate, how often to evaluate, and how to evaluate.

Level 4 Evaluation- Results

1997 Sales Trends

Level four evaluation attempts to assess training in terms of business results. In this case, sales transactions improved steadily after training for sales staff occurred in April 1997.
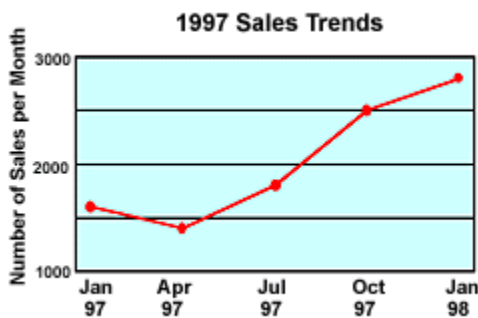
Frequently thought of as the bottom line, this level measures the success of the program in terms that managers and executives can understand -increased production, improved quality, decreased costs, reduced frequency of accidents, increased sales, and even higher profits or return on investment. From a business and organizational perspective, this is the overall reason for a training program, yet level four results are not typically addressed. Determining results in financial terms is difficult to measure, and is hard to link directly with training.

**Methods for Long-Term Evaluation**

- Send post-training surveys

- Offer ongoing, sequenced training and coaching over a period of time

- Conduct follow-up needs assessment

- Check metrics (e.g., scrap, re-work, errors, etc.) to measure if participants achieved training objectives

- Interview trainees and their managers, or their customer groups (e.g., patients, other departmental staff)

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The Kirkpatrick Training Model for Training Assessment

The classic training model used widely in industry and government today is based on the work of Professor Donald L. Kirkpatrick of the University of Wisconsin.
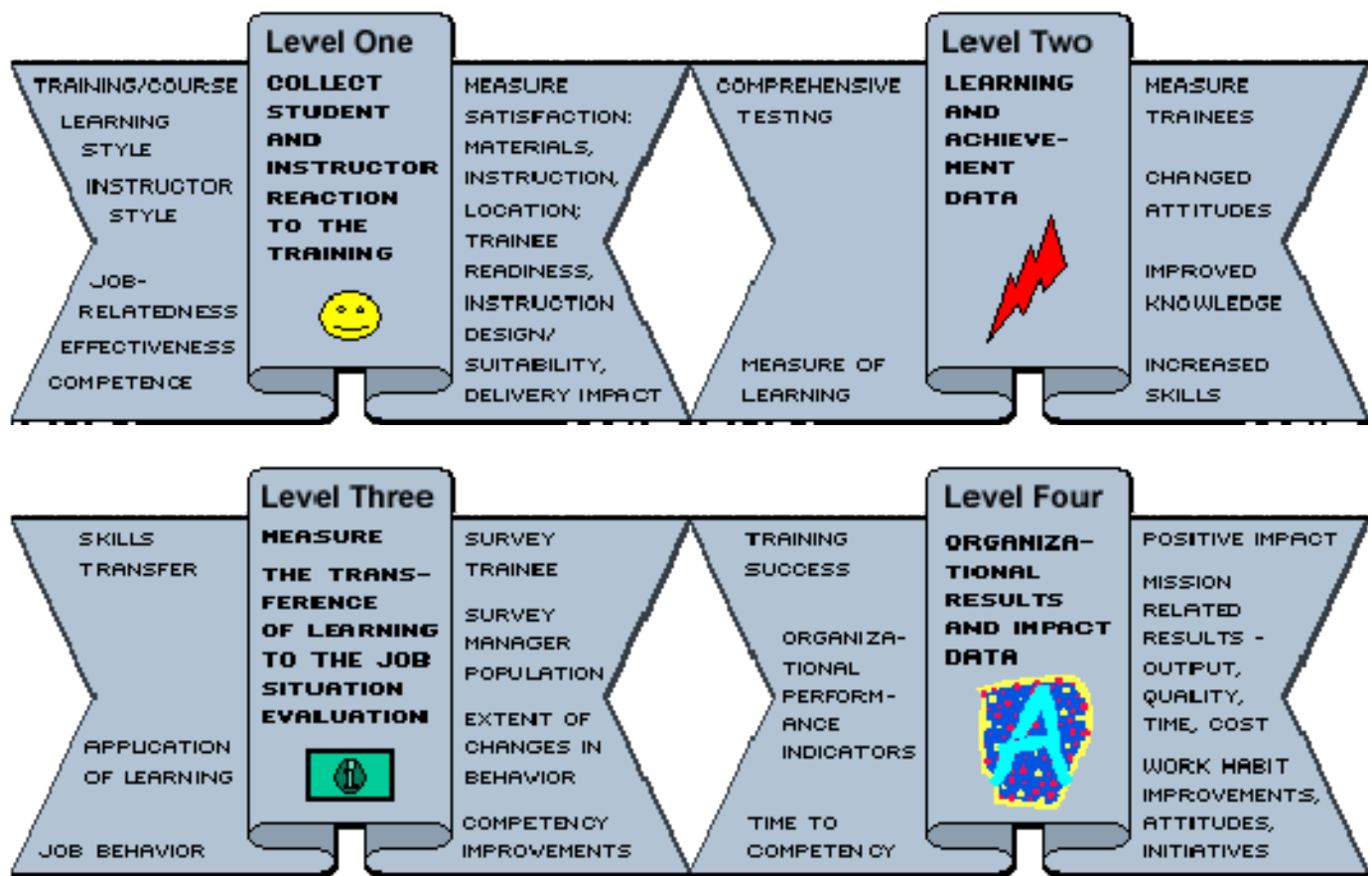
Kirkpatrick Level 1 or Reaction data typically includes "learn-ability" data collected from trainees (e.g., learning preferences, instructional delivery, job-relatedness, training efficacy, instructor competence) and "teach-ability" data collected from instructors (e.g., trainee readiness, job-relatedness, instructional design, materials accuracy and suitability, training facility adequacy, as well as other reactions to the training event and its delivery).

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Kirkpatrick Level 2, or Learning and Achievement data, is usually assessed through a comprehensive testing program, measures the extent to which trainees changed attitudes, improved knowledge and/or increased skills as a result of participating in the training.

Kirkpatrick Level 3 or Behavior and Performance data, determines the extent to which changes in behavior and job performance have occurred as a result of the training event. Level 3 data is usually collected between 3 and 6 months after the training event and involves both students' and managers' evaluation of changes in job related activities.

Kirkpatrick Level 4 or Organizational Results and Impact data, measures the mission-related outcomes considered indicative of training success that occurred as a result of participants having participated in the training event.

A Level 5 model is also proposed for use in some quarters. Although not the work of Dr. Kirkpatrick, this model attempts to measure the return on investment (ROI) achieved through improved performance resulting from the training. This would be accomplished by defining the value of the improved performance relative to the cost of obtaining that

Donald L. Kirkpatrick's training evaluation model - the four levels of learning evaluation

The four levels of Kirkpatrick's evaluation model essentially measure:

- reaction of student - what they thought and felt about the training
- learning - the resulting increase in knowledge or capability
- behavior - extent of behavior and capability improvement and implementation/application
- results - the effects on the business or environment resulting from the trainee's performance

Kirkpatrick's four levels of training evaluation

This grid illustrates the basic Kirkpatrick structure at a glance.

level	evaluation type (what is measured)	evaluation description and characteristics	examples of evaluation tools and methods	relevance and practicability
1	reaction	• reaction evaluation	• e.g., 'happy sheets',	• quick and very easy

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		is how the delegates felt about the training or learning experience	feedback forms • also verbal reaction, post-training surveys or questionnaires	to obtain • not expensive to gather or to analyze
2	learning	• learning evaluation is the measurement of the increase in knowledge - before and after	• typically assessments or tests before and after the training • interview or observation can also be used	• relatively simple to set up; clear-cut for quantifiable skills • less easy for complex learning
3	behavior	• behavior evaluation is the extent of applied learning back on the job - implementation	• observation and interview over time are required to assess change, relevance of change, and sustainability of change	• measurement of behavior change typically requires cooperation and skill of line-managers
4	results	• results evaluation is the effect on the business or environment by the trainee	• measures are already in place via normal management systems and reporting - the challenge is to relate to the trainee	• individually not difficult; unlike whole organization • process must attribute clear accountabilities

Pre-Read Work Sheet: Kirkpatrick's Four Levels of Evaluation

Use the following "3 – 2 – 1 Review Strategy":

3:   **List three points that captured your attention:**

γ _____
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_____

γ _____
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2:   **List two questions you have as a result of reading the article.**

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γ _____
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1:   **Describe one "big idea" or the "Most Important Point" (MIP) you learned, realized or can use.**

γ _____
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Test, Exams, and Quizzes:

(DIRECTIONS: As you read this article, you are to use a technique that is referred to as *"Focused Reading"*. As you read, in the margin; Place a (✔) check mark by the area to indicated that what you just read, you already know; Place an (**!**) exclamation point by the area that is new to you, or one of those "a-ha!" or "wow!" this is new insights of understanding; Finally, place a (**?**) question mark for those sections or areas you do not understand or that you might have further questions or need further understanding. When done reading and marking the article, turn to the worksheet and do as it directs.)

No matter what course is taught, at some point, there has to be a test of some sort, to check to see if the students have grasped an understanding of the material taught. This is done by testing and evaluating. *The goal* of this article is to help the instructors in knowing the reasons for testing, and how to write or design a test or evaluation.

Performance Objectives: At the end of this article the reader will be able to:
1: Effectively recognize what is meant by 'Norm Reference' and 'Criterion Reference'.
2: Properly identify why testing is important.
3: Accurately explain what makes a test question 'valid'.
4: Properly explain that when giving tests and exams, the testing process should measure students in other areas than just 'recall'.
5: Successfully identify how to formulate test questions and evaluations.
6: Successfully demonstrate writing three of the different types of test questions, (i.e. multiple choice, fill in the blank, true or false, matching, diagramming, performance based testing, hands-on, simulations, role-playing, etc.), to be turned in with the final lesson plan.

Introduction: This article is designed to help instructors write better tests; better in that they more closely assess instructional objectives and assess them more accurately. A number of problems keep classroom tests from being accurate measures of students' achievement. Some of these problems are:

☐ Tests include too many questions measuring only knowledge of facts. One of the most common complaints from students is that the test content did not reflect the material discussed in class or what the professor seemed to indicate was most important. This may happen because knowledge questions are the easiest to write.

☐ Too little feedback is provided. If a test is to be a learning experience, students must be provided with prompt feedback about which of their answers were correct and which were incorrect.

☐ The questions are often ambiguous and unclear. According to Milton (1978), ambiguous questions constitute the major weakness in college tests. Ambiguous questions often result when instructors put off writing test questions until the last minute. Careful editing and an independent review of the test items can help to minimize this problem. ☐

The tests are too short to provide an adequate sample of the body of content to be covered. Short tests introduce undue error and are not fair to students. ☐

The number of exams is insufficient to provide a good sample to students' attainment of the knowledge and skills the course is trying to develop. The more samples of student achievement obtained, the more confidence instructors have in the accuracy of their course grades.

Citerion-referenced **vs/ N*orm-referenced***:   Many educators and members of the public fail to grasp the distinctions between *criterion-referenced* and *norm-referenced* testing. It is common to hear the two types of testing referred to as if they serve the same purposes, or shared the same characteristics. Much confusion can be eliminated if the basic differences are understood.

Norm-Referenced Tests: This refers to the **'assessment of student's achievements in relation to other students'**. Basically it refers to the comparing of one student against that of another student. Nor-Referencing is the measuring of what 'one knows' in comparison of what 'the other knows'.   The grading system is what is called, *NORMING SAMPLES*:. This is also known as 'grading on the curve'. or "Bell curving".

If you have twelve students, and they are given a test, and of all twelve of the students the highest test score is that of 59%. This means that all twelve students in all reality - failed the test. But by 'grading on a curve', the person with the 59% will receive the A grade.

6 – 'C'

2 – 'B'		**2 – 'D'**

1 – 'A'		**1 – 'F'**
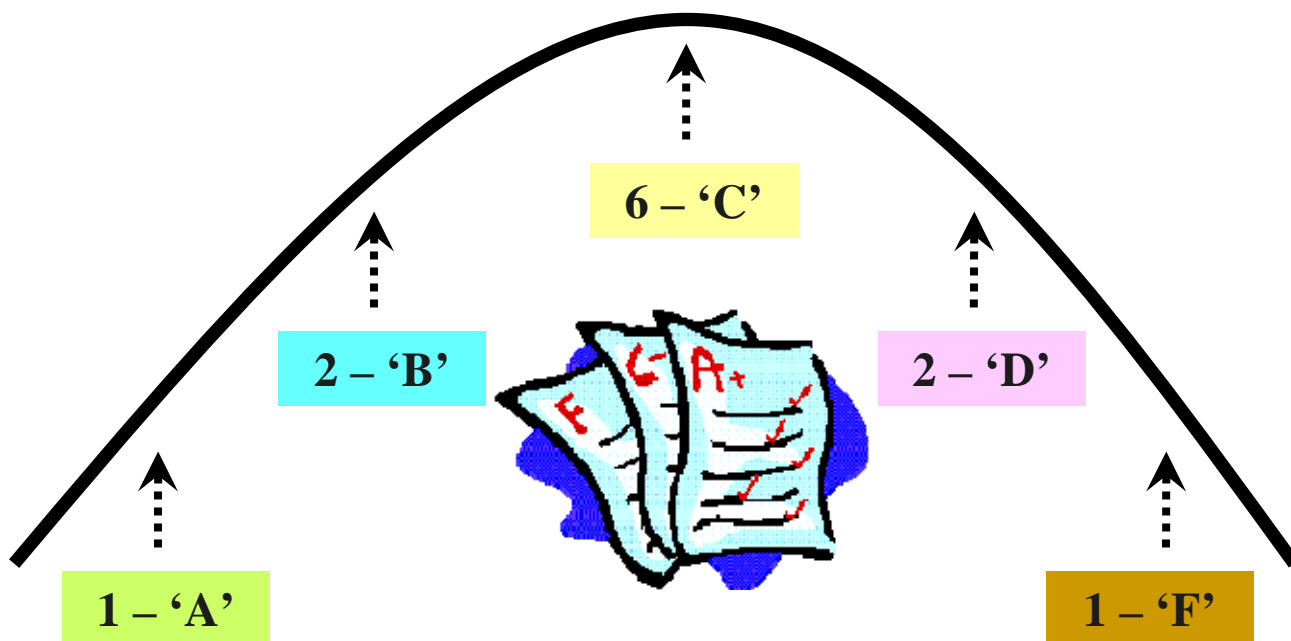
1 Student -   59% = A Grade
2 Students -   56% = B Grade
6 Students -   54% = C Grade
2 Students -   51% = D Grade
1 Student -   48% = F Grade

On the other hand take the same twelve students, and on another test, the lowest score was a 94%. Everyone passed, but by 'grading on a curve', the 94% score is an F grade.

> 1 Student -   100% = A Grade
> 2 Students -   99% = B Grade
> 6 Students -   97% = C Grade
> 2 Students -   95% = D Grade
> 1 Student -   94% = F Grade.

Is this a fair way to grade? I would hope you would say "NO!"

Criterion Reference: This **measures each student's mastery of the course against the 'performance objectives'**. In another words, the criteria are established in the performance objectives. If the student can complete the tasks given to him or her, then they 'PASS', if they cannot satisfactory complete the task, then they 'FAIL'. In this way, each student is graded in accordance to what they can do, based off the performance objectives, and not by being compared to what the other students do. PASS/FAIL grades measure what the student has learned, based upon mastery of the topic.

When grading your future students use the PASS/FAIL grading system. Of course you will have to establish what level is 'passing' and what level is 'failing'. In a vehicle reconstruction class, the instructor had a six hour testing/drawing final. He established the level at 75%. 75 or above was passing, and 74 down was failing. In a firearms class, the max score is 120 points, the established level is 85%.

Six reasons for testing: There are six basic reasons as to why we test students.

☐   Testing aids the instructor in making certain classroom decisions. When teaching and considering testing, the instructors should ask themselves;
> "Is the material too difficult?"
> "Is the material being presented too rapidly?"
> "Which students are in need of additional training?"
> "Are the students ready to proceed to a more difficult task?"

Depending on the response, the instructor may have to make decisions as to what is being taught.

☐   Testing can motivate the students. When students are made aware that there is going to be a test or quiz at the end of the block of instruction or a final at the end of the training course, they tend to get motivated, and pay attention.

☐   Testing aids in 'retention'. An added bonus to motivating the students is the student's retention rate is increased. Knowing that there a test or quiz, students that pay attention and take notes to pass the test, which increases the amount of information they retain.

☐   Testing increases 'self-understanding'. Test taking provides instant 'feed back' necessary to self

evaluate. From the test results a student can determine their strengths, or their weaknesses. Students then can pursue whatever means are necessary for change.

☐ Testing provides 'feed back' on the instructor's effectiveness, and/or the material being taught. Test results provides three possibilities

> The test questions may not be valid.
> The material may not be taught well.
> The students are not motivated to learn.

Test results provide the quickest 'feed back' for the instructor to see if the students understand.

Two quotes come to mind that I saw in a school administration office.

The first one *"If the student has not learned...then the instructor has failed to teach"*

The second one *If a student has failed the test...then both the student and the instructor have failed the class."*

This is to say, that if a test was given and everyone fails the test, then there is a problem. Either all the students are 'dumb' or the instructor presented in such a way that the material was not passed on or the material was way over the heads of the students. There is a 99% chance the cause is the latter two. Now the instructor needs to revert back to the first reason for testing – 'classroom changes need to be made.

To illustrate feed back – lets take at our friend – Herman: He just took a test, and he failed the test.

herman

"I think my test results are a pretty good indication of your ability as a teacher."

☐ The sixth reason for testing is: Test results may provide legal documentation of achievement, performance, and understanding. Tests are used to avoid; law suits'. Document a "pass/fail" test scores, and not a numeric score or grade. Remember – *"If it is not written...it did not occur."*

Testing for "Validity": How do you test for 'validity'? The rule is simple: **"That which is in the test has to be covered in the topic material in order to be valid!"** Or in another words *"Test what you teach... Teach what you test!"*

Can you test on reading assignments outside the classroom? YES. If the assignment was made, and was or was not discussed in class, the reading assignment can be used in a test. Can you test on handout that have been passed out to the students? YES. If the students were told to read and study the handout(s) and told that part of the testing will come from the handouts.

*Planning the Test***:** A taxonomy of teaching objectives (Bloom, 1956) lists several cognitive outcomes typically sought in instruction. These outcomes are listed hierarchically in 'table 1' below; they include: Knowledge, Comprehension, Application, Analysis, Synthesis, and Evaluation. If these are desired outcomes of instruction, then classroom tests must include assessment of these objectives.

Write questions that test skills other than recall: Research shows that most tests administered by instructors rely too heavily on students' recall of information. The following table represents areas that go beyond just the 'recall' skills, and measure students in other areas:

Table 1. Examples of Bloom's Cognitive Levels

Bloom's Cognitive Level	Student Activity	Words to Use in Item Stems
Knowledge	Remembering facts, terms, concepts, definitions, principles	Define, list, state, identify, label, name, who? when? where? what?
Comprehension	Explaining/interpreting the meaning of material	Explain, predict, interpret, infer, summarize, convert, translate, give example, account for, paraphrase
Application	Using a concept or principle to solve a problem	Apply, solve, show, make use of, modify, demonstrate, compute
Analysis	Breaking material down into its component parts to see inter relationships/hierarchy of ideas	Differentiate, compare/contrast, distinguish ____ from ____, now does ____, relate ____?, why does ___ work?
Synthesis	Producing something new or original from component parts	Design, construct, develop, formulate, imagine, create, change, write a poem or short story
Evaluation	Making a judgment based on a pre-established set of criteria	Appraise, evaluate, justify, judge, critique, recommend, which would be better?

*The Test Format***:** After planning the content and cognitive objectives for the test, instructors must decide on the best way to measure them; that is, they decide on the test format. The format refers to whether the test will be objective (multiple choice, true-false, matching, etc.) or essay. What factors do faculty consider when deciding on the format of the test?

☐   *What is to be Measured?* We should choose the format that is most appropriate for measuring the cognitive objectives on the test. If instructors want students to contrast A and B, take a position on an issue and defend it, create a plan, and perform other similar tasks, then they would most likely use an essay format. For example, if an instructor wants students to explain the role of the press in the coming of the Civil War, he/she would probably choose an essay item. But if the objective is to identify the

authors of selected writings about the coming of the war, then the instructor could use an objective type format.

Many times instructors have a choice. Objective-type items can be used quite effectively to measure high level cognitive objectives. A common myth depicts objective items as measuring simple factual recall and essays as evaluating higher-order thinking. But multiple choice items, for example, can be written to measure reasoning, comprehension, application, analysis, and other complex thinking processes. What other factors might influence the decision about format?   □

     *The Size of the Class***:** Class size is often an important factor influencing the decision about test formal. It is very difficult to give essay tests when there are 400 students in the class because the scoring time is prohibitive. A survey of 1100 professors from across the country (Cross, 1990) showed that class size is the factor that professors consider most important when they decide what test format to use. Two-thirds of the faculty surveyed said they preferred the essay format but could not use it because of the size of their classes. They used essay tests only in small classes.   □

     *Time Available to Prepare and Score Test***:** It takes a long time to score an essay test. By contrast, it takes a long time to construct a multiple-choice test. Instructors must consider whether they will have more time available when preparing or when scoring the test. If instructors are short of time when a test must be prepared, then they might choose an essay test, if class size permits. We are not implying that good essay questions are easy to write; essay tests are easier to prepare only because fewer questions have to be written.

How to write or formulate test questions:

Multiple Choice Test Questions:

Multiple Choice questions are the "work horse" of testing. They are the most commonly used. They are referred to as the "highest standard" of test questions. Multiple-choice items can be used to measure both simple knowledge and complex concepts. Since multiple-choice questions can be answered quickly, you can assess students' mastery of many topics on an hour exam.   In addition, the items can be easily and reliably scored.

□   *Multiple-choice questions consist of two parts*.
    η   The STEM: The part, which presents a problem.
    η   The ALTERNATIVES: The part that follows the stem, which provides possible solutions to the problem. (Also referred to as "distractors")
□   *Rules for the Stem:*
    η   The stem generally is phrased as a STATEMENT and not as a question, depending on what level of Blooms you are working with. (See examples below.
    η   The stem should present single, clearly formulated problems.
    η   The stem should be in simple, understood language.
    η   A way to judge a good stem: The student's who know the content should be able to answer before reading the alternatives.

□   *The Alternatives:*

η   There are usually no less than four alternatives.

η   If a person does not know the correct response, then they have a 25% chance of questing correctly.

η   There can be more than four. Like - E) All the above; F) Only A & C; G) Only B & D

η   However many alternatives, there can only be ONE Correct response.

η   Distractors should be incorrect, but plausible. The student should not be able to eliminate a distracter simply because it is clearly wrong.

η   The longest option among possible answers is usually the correct one. To avoid this situation, make at least one distracter the same length as the correct choice.

η   Avoid "always" and "never" in distractors. Choose terms like "usually," "likely" and "rarely" to keep students from easily eliminating distractors

η   Use "all of the above" and "none of the above" sparingly. "All of the above" allows students to select the correct response by identifying just two of the options as correct. "None of the above" does not establish that the student knows the correct answer. ☐

Advantages: Multiple-choice questions are the most versatile of the closed-ended question types. This versatility stems from the fact that the questions can contain more elaborate scenarios that require careful consideration on the part of the student. The probability of student guessing is also relatively low. ☐

Disadvantages: When compared to true/false and matching, multiple-choice items can be more challenging to write. They also require the creation of plausible "distractors," or incorrect answer options. As with other closed-ended questions, multiple-choice assesses recognition over recall.

☐   ***The following are examples of multiple-choice questions.*** The examples in this section will focus on demonstrating how you might write an effective multiple-choice item for each of the first four levels of Bloom's Taxonomy.

η   ***Knowledge Level***
The value that occurs most frequently in a data set is the:
a. Mean
b. Standard deviation
c. Mode
d. Median

The answer is "c." This is a knowledge-level question because it requires only that the student remember the definition of mode.

η   ***Comprehension Level***
Which of the following measures involves ordinal data?
a. The score of a football game
b. Football player's jersey number
c. A team's rank in league standings
d. Number of fans in attendance

The answer is "c." This is an example of a comprehension-level question, in that it requires the student to recognize a previously unseen example of ordinal data.

η   *Application Level*
The standard deviation of the sample data 6, 9, 10, 12, 13 is closest to:
a. 3
b. 5
c. 8
d. 10

The answer is "a." This question assesses application-level mastery, or the ability to apply a rule or formula in a new context.

η   *Analysis Level*
Susan, a student in Mr. Smith's statistics class, asks Mr. Smith what her average score is for the three exams he has given the class. He replies that her average is +1.7. Which of the following assumptions about the students' scores on these tests is most plausible?*
a. The standard deviations of scores on all three tests were similar.
b. None of the tests produced extremely skewed distributions.
c. All of the students did poorly on at least one of the tests.
d. The correlations between the three sets of test scores were low.

Answer is "d." This item requires the test-taker to recognize unstated assumptions and relationships. The test-taker has to recognize the steps Mr. Smith has taken (converted scores into Z-scores) and why he would do so (the tests probably have very unlike distributions or lack of variation in one or more tests).

True or False Test Questions:

☐   *Good for*:
η   Knowledge level content
η   Evaluating student understanding of popular misconceptions
η   Concepts with two logical responses

☐   *Advantages*:
η   Can test large amounts of content
η   Students can answer 3-4 questions per minute

☐   *Disadvantages*:
η   They are easy
η   It is difficult to differentiate between students that know the material and students who don't
η   Students have a 50-50 chance of getting the right answer by guessing

η   Need a large number of items for high reliability

η   Because random guessing will produce the correct answer half the time, true-false tests are less reliable than other types of exams. However, these items are appropriate for occasional use. Some Instructors who use true-false questions add an "explain" column in which students write one or two sentences justifying their response.

☐   There are *five rules* that are a must when preparing true and false test questions:

η   Include ONLY ONE central idea in each statement.

η   Construct the question so precisely that it can not be misunderstood.

η   Keep the question short, precise and simple. Avoid long, complex sentences.

η   Avoid double negatives, and use negative statements sparingly.

η   Never use an OPINION! If an OPINION is used in a true and false question, attribute it to some source, since opinions are neither true nor false.

☐   The following are 'suggestions' (not rules) which should be considered when writing true and false questions.

η   Where possible avoid the use of the words:

> ***always   nothing   nobody   never   everyone***
> ***none   any   everybody   only   all***

These are referred to as *'absolute words'*, meaning they are generally too broad and difficult to defend. These words tend to be indicative to being - **false.**

η   Avoid the use of the words:

> ***may   generally   usually   sometimes   few***
> ***occasionally   some   many   often***

These are referred to as *'limiting words'*. These words tend to be - **true**.

η   Do not emphasize the trivial.

η   Do not lift items straight from the book.

η   Make more false than true (60/40). (Students are more likely to answer true.)

Fill in the Blanks:

The completion format requires the student to answer a question or to finish an incomplete statement by filling in a blank with the correct word or phrase.

☐   The advantages of completion items or fill in the blank questions are

η   they provide a wide sampling of content; and

η   they minimize guessing compared with multiple-choice and true-false.

☐   The limitations are they

η   rarely can be written to measure more than simple recall of information;

η   are more time-consuming to score than other objective types;

η   are difficult to write so there is only one correct answer and no irrelevant clues.

Guidelines for Writing (Completion Items) Fill in the Blank:

☐   Omit only significant words from the statement, but do not omit so many words that the statement becomes ambiguous.

η   Poor: The Constitutional Convention met in _____ in _____.

η   Better: The Constitutional Convention met in the city of _____ in 1787.

☐   Write completion items that have a single correct answer, if possible.   η

            Poor: Abraham Lincoln was born in _____.

            (There are several legitimate   answers: Kentucky, 1809, February, a log cabin, etc.)

η   Better: Abraham Lincoln was born in the state of _____.

☐   Use blanks of the same length throughout the test so that the length is not a clue

☐   Avoid grammatical clues to the correct response. For example, if the indefinite article is required before a blank, use a(n) so that the student doesn't know if the correct answer begins with a vowel or a consonant.   η

            Poor: A subatomic particle with a negative electric charge is called an _____

            (The student could eliminate proton, neutron, and meson as possible responses.)

η   Better: A subatomic particle with a negative electric charge is called a(n) _____.

☐   If possible, put the blank at the end of a statement rather than at the beginning. Asking for a response before the student understands the intent of the statement can be confusing and may require more reading time.   η

            Poor: _____ is the measure of central tendency that is most affected by extremely high or low scores.

η   Better: The measure of central tendency that is most affected by extremely high or low scores is the _____.

☐   Avoid taking statements directly from the text.

Short Answer Questions:

☐   Short answer questions ask the student a direct question that can be answered with a single word, phrase, sentence, or paragraph. Completion items require the student to fill-in the blank of a statement. Essentially, short answer and completion items are multiple-choice questions without the supplied responses. This demands more processing on the student to recall the correct response rather than recognize it from a list. Spelling errors or sloppy handwriting can also bias accurate assessment of student knowledge. Because the student must understand the question well enough to supply a correct response, the questions must be written even more clearly than with multiple-choice questions.

☐   In general, short answer and completion items require more subjective grading than multiple-choice items. Short-answer questions may also offer a range of correct solutions that will need to be addressed in an answer key. In a similar fashion, partial credit maybe awarded for partial answers. Short answer and completion items can provide diagnostic information when looking at the type of error that students made, but because of the difficulty in grading, they do not lend themselves to the item analysis available with multiple-choice items.

☐ Short Answer – means, answering the question. Short-answer questions can call for one or two sentences or a long paragraph. Short-answer tests are easier to write, though they take longer to score, than multiple-choice tests. They also give you some opportunity to see how well students can express their thoughts, though they are not as useful as longer essay responses for this purpose.

 ☐ Advantages: Easy to make. No guessing – Students have to come up with answers rather the just recognize it. They are faster to answer than multiple choice questions, because they have no alternatives to read through.

☐ Example of a short answer question:
  What is the name of the test item that consists of a single stem and several options?
  (Multiple-choice and multiple answer would be acceptable.)

☐ Example of a completion item:
  The type of test item where the student must select between one of two options is known as a(n) _____ test item.
  (In addition to true-false, binary-choice, or alternate-response would be acceptable.)

Essay:

☐ Essays allow students... "Freedom of expression". This freedom of expression can have both positive and negative consequences.
 η Positive side: It allows a knowledge-able student to express facts, concepts, and ideas.
 η Negative side: Very time consuming for the instructor - takes time to read and review them all.

☐ Essay tests are appropriate when:
 η The group to be tested is small and the test is not to be reused.
 η You wish to encourage and reward the development of student skill in writing.
 η You are more interested in exploring the student's attitudes than in measuring his/her achievement.
 η You are more confident of your ability as a critical and fair reader than as an imaginative writer of good objective test items.

☐ Essay tests can be used to:
 η Measure almost any important educational achievement a written test can measure.
 η Test understanding and ability to apply principles.
 η Test ability to think critically.
 η Test ability to solve problems.
 η Test ability to select relevant facts and principles and to integrate them toward the solution of complex problems.

☐ Writing Essay Items at Different Levels of Bloom's Taxonomy η
  The goal is to write essay items that measure higher cognitive processes. The question should represent a problem situation that tests the student's ability to use knowledge in order to analyze, justify, explain, contrast, evaluate, and so on. Try to use verbs that elicit

the kind of thinking you want them to demonstrate. Instructors often have to use their best judgment about what cognitive skill each question is measuring. You might ask a colleague to read your questions and classify them according to Bloom's taxonomy.

η   Another point that should be emphasized when writing items that measure higher cognitive processes is that these processes build on and thus include the lower levels of knowledge and comprehension. Before a student can write an essay requiring analysis, for example, he/she must have knowledge and a basic understanding of the problem. If the lower level processes are deficient, then the higher-level ones won't operate at the maximum level.

Practical Practice Testing - Role Playing - Simulation Scenarios:

☐   They must be real and realistic.
☐   Information should have been taught;
  η   verbally/lecture   *(tell)*
  η   demonstrated by the instructor   *(show)*
  η   practiced/hands-on by the students   *(do)*
☐   They must fit within the scope of job.
☐   They must well scripted, and the actors must not deviate from the script.
☐   The script must be standardized for each person being tested.
☐   The script can have alternatives.
  η   If the officer being tested does one thing, the actor may do one thing, if the officer does another thing the actor will counter accordingly.
  η   The variables must be written down.
☐   The evaluation needs to be pre-written.
  η   The areas that were taught and need to be tested, must be written down.
  η   The areas that are to be tested must be based off the performance objectives.
☐   The evaluators need to be instructed as to what they are evaluating.
☐   Safety Officer – there is an important need to provide safety in role playing and in scenarios.   η   Safety is maintained by having personnel watch and control, and to say "time out".
  η   This person can be a separate person or the person doing the evaluations can double as the safety officer.

Matching:
☐   Good for:
  η   Knowledge level – of students; Some comprehension level,
  η   if appropriate constructed
☐   Types: There are several "types" of matching that can be used, for example:
  η   Terms with definitions
  η   Phrases with other phrases
  η   Cause with effects
  η   Parts with larger units

η   Problems with solutions
☐   Advantages:
η   Maximum coverage at knowledge level in a minimum amount of space/prep-time
η   Valuable in content areas that have a lot of facts
☐   Disadvantages:
η   Time consuming for students
η   Not good for higher levels of learning
☐   Tips for Writing Good Matching items:
η   Need 15 items or less.
η   Give good directions on basis for matching.
η   Use items in response column more than once (reduces the effects of guessing).
η   Use homogenous material in each exercise.
η   Make all responses plausible.
η   Put all items on a single page.
☐   Put response in some logical order (chronological, alphabetical, etc.).
η   Responses should be short.

Diagramming:

1: _____
2: _____
3: _____
4: _____
5: _____
6: _____
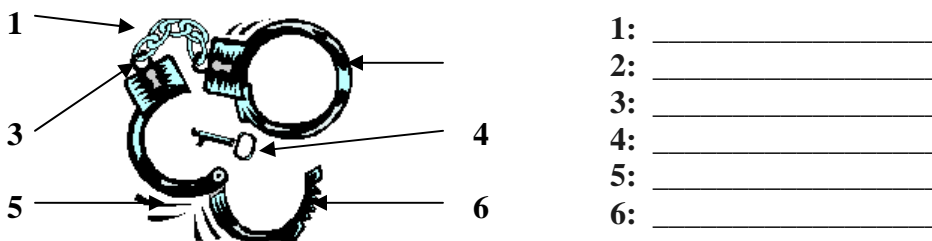
Take-home tests:

☐   Take-home tests allow students to work at their own pace with access to books and materials.
☐   Take-home tests also permit longer and more involved questions, without sacrificing valuable class time for exams.
☐   Problem sets, short answers, and essays are the most appropriate kinds of take-home exams.
☐   Be wary, though, of designing a take-home exam that is too difficult or an exam that does not include limits on the number of words or time spent.
☐   Also, be sure to give students explicit instructions on what they can and cannot do: for example, are they allowed to talk to other students about their answers?
☐   A variation of a take-home test is to give the topics in advance but ask the students to write their answers in class.

Crossword Puzzles: Games, Board Games, Puzzles.

Be creative!

☐   In a recent class on C.P.R., following the instruction and hand-on of using the mannequins, the instructor checked to see if the students understood by playing 'Jeopardy'. The instructor broke the class into four teams, and the students played a game. It served as a review, and as a means of testing.

C	A	A	F	B	S	C	N	L	L
U	H	E	R	M	A	N	O	A	I

☐   In a class by one of the Instructor Development Students, the young lady prepared as a test a 'crossword puzzle'.

☐   On the next page is an example of a quiz that is given in a Law Enforcement Spanish class. A word search (word hunt) where the student has to translate English words into the correct Spanish word, then search for the word in the word hunt, and circle the word.

Word Hunt Directions: Using a Spanish/English dictionary, translate the English words to Spanish.
Then find the Spanish words in the Word Hunt and circle the word.

U	H	E	R	M	A	N	O	A	I
A	O	H	A	Y	L	E	C	P	B
D	R	E	S	D	A	I	H	I	R
E	A	L	E	E	F	B	E	Z	O
R	G	H	I	J	K	M	I	R	A
N	L	M	N	O	F	A	C	I	L
O	R	T	S	E	S	T	A	P	Q

1)   Pencil   __Lápiz__   9)   Easy   _____

2)	Living Room	_____	10)	Now	_____
3)	Book	_____	11)	There is	_____
4)	Notebook	_____	12)	He looks at	_____
5)	Sentence	_____	13)	Night	_____
6)	Brother	_____	14)	He reads	_____
7)	Also	_____	15)	This (f.)	_____
8)	With	_____			

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Ordering Items: A list of items, that need to be placed into the correct order;

☐ An ordering consists of a single list of items that can be ordered in a logical fashion such as importance or chronology. Ordering items typically assess knowledge or comprehension outcomes, but they can be used for higher level outcomes as well. For example, a student could be given a case or scenario and asked to order a series of events in the question in order of impact on the final outcome. Ordering items should contain no more than 7-9 components in a list. Some suggestions for writing ordering items include:

η Keep item short (a word, phrase, or single sentence).
η All stems should be similar in content and structure.
η Include clear directions on what the basis for ordering is.
η Use a non-related ordering method to list the items such as alphabetic order or order of appearance.

☐ Example of an ordering item:

Rank-order the following items in terms of importance in assessing the quality of a test. Rate importance based on whether an item could be skipped if time or resources limited what assessment could be done. The first item would be the most essential type of assessment to do, and the last item would be the first item to skip.

_____	Non-expert assessment
_____	Peer assessment
_____	Post-application assessment
_____	Self-assessment by author
_____	Student assessment prior to application

Group Exams:

☐   This is where the class is broke down into a group of students who work as a group, on a test.

Paired Testing:

☐   For paired exams, pairs of students work on a single essay exam, and the two students turn in one paper.

CLOSING: Effective testing and evaluation techniques are critical to the success of your training program, and should be designed attentively. They help you to determine the success level of your program, and they also assist in identifying areas which require improvement. In an age when training budgets are subject to reductions, the results of these techniques can also help you to justify your budget.

Evaluation of training should consist of data on the following four subjects: *reaction, learning, behavior, and results*.

Reaction refers to the way the participants viewed the training. Did they like it? Did they find it helpful? Will they be able to use the information? Did they understand everything? The best way to measure reaction is to use a questionnaire, and also to record any verbal comments to be analyzed along with the data from the questionnaire. Many trainers prefer to have a short questionnaire at the end of each day, and then a longer, more general one at the end of the program. This provides very specific information on every aspect of the course. Data should be quantifiable, but be careful not to discourage comments and suggestions for improvement in addition to quantifiable data. As with the other evaluation techniques, statistical analysis can be applied to the quantifiable data to enhance its usefulness.

Learning is most commonly measured by some type of test. Test methods can vary, and should be selected for their appropriateness. Tests are either objective or subjective. Objective tests are recommended because they minimize the opportunity for bias in grading. However, subjective tests can be used if the objectives stress integration and synthesis of the material. Further, objective and subjective tests can be broken down into written, oral, and performance type tests. Oral tests are the least desirable, again because it is difficult to ensure objectivity. If you do use an oral test, be sure to ask the same question in the same way to each participant. Answers should be graded by comparing them with predetermined written criteria. In a work situation, performance tests are often the most appropriate, as it requires the participant to integrate the knowledge learned into the task required. When using performance tests, be sure that you are clear about the standards which are required, to provide all the materials needed, and to

minimize other distractions. However, written tests can also be useful.

Regardless of the method for testing that you select, all testing must be evaluated for reliability and validity. Reliability ensures that test results are consistent over time assuming that no learning has occurred between testings. To increase reliability, make sure that all test items are clear, concise, and complete, make sure that it is easy to administer, and possible to grade fairly and accurately. Validity requires that the test actually measures what it is that you want to measure. Therefore, design tests that relate directly to the learning objectives (in this case that often means the on the job behavior desired.)

Behavior must be evaluated to confirm whether or not the skills taught in training have been successfully integrated into the employee's performance. Unlike learning tests, which are normally conducted immediately following training, behavior must be measured after a period of time has elapsed since the training. This is to ensure that the skill has not only been learned, but also retained and used. Behavior can be measured with performance appraisals and other company reports as long as they are task related and are performed systematically and reliably.

Results must be measured. Results tell you if the organizational goal of your training was achieved. These goals usually pertain to cost, quality, productivity, etc. Official reports and records concerning issues such as production, quality, waste, maintenance cost, and absences are good source material for measuring results. If such data is not already being collected, you may need to initiate its collection.

Many agencies require that data collected from these four areas be analyzed using statistical analysis. Proper use of statistical analysis helps to provide assurance that the conclusions drawn are accurate. These conclusions are essential to continuous improvement, and should be taken seriously. By using good evaluation and testing techniques, you will contribute significantly to the quality of operations at your plant.

Source:

☐   *How To Be An Effective Trainer*, 2nd edition, Barry J. Smith and Brian L. Delahaye, John Wiley and Sons, ©1983.

☐   State of Idaho – Peace Officer Standards & Training – *Instructor Development Training Program* – 2007 Instructor's Manual - *"Test Questions and Evaluations"*

☐   *K*-TEC **Law Enforcement Training for the 21st Century** ©

☐   <u>Law and Order</u> Magazine - Training Officer's Notes *"To Test or Not To Test"* by Jack B. Molden, Sept 1987 issue

☐   <u>Law and Order</u> Magazine - Training Officer's Notes *"Developing Written Tests"* by Jack B. Molden, Nov. 1987 issue

Pre-Read Work Sheet: Test, Exams, and Quizzes

You were instructed to use the technique "Focused Reading" while reading the article, if you did this – great; if not then go back and re-read the article following the directions.

Y   **List four areas or ideas that you already knew.**

γ   _____
    _____

γ   _____
    _____

γ   _____
    _____

γ   _____
    _____

!   **List out four areas that were new to you.**

γ   _____
    _____

γ   _____
    _____

γ   _____
    _____

γ   _____
    _____

?   **List out for areas that you did not understand, or areas that you want more understanding.**

γ   _____
    _____

γ   _____
    _____

γ   _____
    _____

γ   _____
    _____