



EARLY LEARNING  
COALITION  
OF SOUTHWEST FLORIDA

# Trainer's Handbook:

*Continuing Education and CEUs*



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# Kirkpatrick's Learning and Training Evaluation Theory

(Adapted from Donald Kirkpatrick's Learning Evaluation model; review, remaining material, design and code Alan Chapman 1995-2006 (n.d.). Retrieved April 11, 2007 from URL: <http://www.businessballs.com/>)

Donald L Kirkpatrick first published his ideas regarding the evaluation of training programs in 1959, in a series of articles in the *US Training and Development Journal*. The articles were subsequently included in Kirkpatrick's book *Evaluating Training Programs* (1975), published by the American Society for Training and Development (ASTD), of which Kirkpatrick previously served as president. Kirkpatrick has written several other significant books about training and evaluation, and has consulted with some of the world's largest corporations. His theory has become the most widely used and popular model for the evaluation of training and learning. Kirkpatrick's four-level model is now considered an industry standard across the HR and training communities. The four levels of training evaluation model was redefined and updated in Kirkpatrick's 1998 book, *Evaluating Training Programs: The Four Levels*.

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

- Reaction of students - 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.

All these measures are recommended for full and meaningful evaluation of learning in organizations, although their application broadly increases in complexity, and usually cost, from levels one to four.

**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 is how the delegates felt about the training or learning experience.	"Happy sheets," or feedback forms. Also verbal reaction, post-training surveys, or questionnaires.	Quick and very easy 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. Interviews or observations 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 -- i.e., implementation.	Observations and interviews 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.

# Bloom's Taxonomy

(Adapted from Clark, D. (2007). Learning Domains or Bloom's Taxonomy. [Big Dog, Little Dog](http://nwlinc.com/~donclark/about/about.html). Retrieved, June, 03, 2007 from <http://nwlinc.com/~donclark/about/about.html>.)

**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*)

Domains can be thought of as categories. Trainers often refer to these three domains as KSA (Knowledge, Skills, and Attitude). This taxonomy of learning behaviors can be thought of as "the goals of the training process." That is, after the training session, the learner should have acquired new skills, knowledge, and/or attitude. The committee also produced an elaborate compilation for the cognitive and affective domains, but none for the psychomotor domain. This was later developed by Simpson and others. Simpson's taxonomy is included in this Annex for reference purposes.

The three domains are divided into subdivisions, starting from the simplest behavior to the most complex. The divisions outlined are not absolutes, and there are other systems or hierarchies that have been devised in the education and training world. However, Bloom's taxonomy is easily understood and is probably the most widely applied one in use today.

## Cognitive <sup>(1)</sup>

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. Know 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:** Rewrite the principles of test writing. Explain in one's own words the steps for performing a complex task. Translate 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:** Separate material or concepts into component parts so that its organizational structure may be understood. Distinguish between facts and inferences.

**Examples:** Troubleshoot a piece of equipment by using logical deduction. Recognize logical fallacies in reasoning. Gather information from a department and select 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:** Build 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. Integrate training from several sources to solve a problem. Revise 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 <sup>(2)</sup>

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 are listed from 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, replies, uses.

**Responding to Phenomena:** Active participation on the part of learners. Attend and react to a particular phenomenon. Learning outcomes may emphasize compliance in responding, willingness to respond, or satisfaction in responding (motivation).

**Examples:** Participate in class discussions. Give a presentation. Question new ideas, concepts, models, etc., in order to fully understand them. Know the safety rules and practice 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 internalization of a set of specified values, while clues to these values are expressed in the learner's overt behavior and are often identifiable.

**Examples:** Demonstrate belief in the democratic process. Is sensitive towards individual and cultural differences (value diversity). Show the ability to solve problems. Propose a plan to social improvement and follow through with commitment. Inform management on matters that one feels strongly about.

**Key Words:** completes, demonstrates, differentiates, explains, follows, forms, initiates, invites, joins, justifies, proposes, reads, reports, selects, shares, studies, works.

**Organization:** Organize values into priorities by contrasting different values, resolving conflicts between them, and creating a unique value system. The emphasis is on comparing, relating, and synthesizing values.

**Examples:** Recognize the need for balance between freedom and responsible behavior. Accept responsibility for one's behavior. Explain the role of systematic planning in solving problems. Accept professional ethical standard. Create a life plan in harmony with abilities, interests, and beliefs. Prioritize 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):** Have a value system that controls 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:** Show self-reliance when working independently. Cooperate in group activities (display teamwork). Use an objective approach in problem solving. Display a professional commitment to ethical practice on a daily basis. Revise judgments and change behavior in light of new evidence. Value 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 <sup>(3)</sup>

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 are listed from 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, through cue selection, to translation.

**Examples:** Detect non-verbal communication cues. Estimate where a ball will land after it is thrown and then move to the correct location to catch the ball. Adjust heat of stove to correct temperature by smell and taste of food. Adjust 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 person's response to different situations (sometimes called "mindsets").

**Examples:** Know and act upon a sequence of steps in a manufacturing process. Recognize one's abilities and limitations. Show desire to learn a new process (motivation). NOTE: This subdivision of Psychomotor is closely related to 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 include imitation and trial and error. Adequacy of performance is achieved by practicing.

**Examples:** Perform a mathematical equation as demonstrated. Follow instructions to build a model. Respond to hand signals of instructor while learning to operate a forklift.

**Key Words:** copies, follows, reacts, reproduces, responds, traces.

**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 often utter sounds of satisfaction or expletives as soon as they hit a tennis ball or throw a football, because they can tell by the feel of the act what the result will produce.

**Examples:** Maneuver a car into a tight parallel-parking spot. Operate a computer quickly and accurately. Display 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 for Mechanism, but will have adverbs or adjectives that indicate that the performance is quicker, better, more accurate, etc.

**Adaptation:** Skills are well developed and the individual can modify movement patterns to fit special requirements.

**Examples:** Respond effectively to unexpected experiences. Modify 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 on highly developed skills.

**Examples:** Construct a new theory. Develop a new and comprehensive training programming. Create a new gymnastic routine.

**Key Words:** arranges, builds, combines, composes, constructs, creates, designs, initiates, makes, originates.

## References

1. Bloom B.S. (1956). *Taxonomy of Educational Objectives, Handbook I: The Cognitive Domain*. New York: David McKay Co., Inc.
2. Krathwohl, D.R., Bloom, B.S., & Masia, B.B. (1973). *Taxonomy of Educational Objectives, the Classification of Educational Goals. Handbook II: Affective Domain*. New York: David McKay Co., Inc.
3. Simpson E.J. (1972). *The Classification of Educational Objectives in the Psychomotor Domain*. Washington, DC: Gryphon House.







## COURSE PLANNING PROCESS

1. List knowledge, skills or experience that the target audience should have in order to understand this training (prerequisites if any).
2. What is the goal of the training?
3. What are the learning outcomes that relate to the goal?
4. Identify and demonstrate presentation strategies that improve learner comprehension and retention
  - Demonstrate techniques for encouraging and facilitating user participation
    - a) Call on learners
    - b) Put into groups to complete task assignments
    - c) Discuss requirements
    - d) Focus on problem areas based on pre-test
    - e) When to review; when to provide correct response and move on
    - f) Follow up assignment that allows for feedback on real activities
5. List the observable behaviors that the participants will be able to DO after training:
  - Write appropriate questions to check mastery of objectives in a course: Questions and activities that effectively check understanding and reinforce learning of the knowledge and skills addressed in the delivery of the course
  - List demonstrable skills that will be observed by the trainer and checked off as completed (if applicable)
  - Assess achievement of learning outcomes through various strategies

Documentation needed for the following to be submitted as part of CEU approval package:

1. The course's learning outcomes
2. Instructional method to be used for each learning outcome (show in power point or outline of training)
3. Assessment tools for learning outcomes



## ELC Training Plan

### For:

*(Insert Training Title Here)*

Date submitted \_\_\_\_\_ By \_\_\_\_\_ Phone \_\_\_\_\_

Presenter(s)	
Presenter(s) fee <i>If applicable</i>	
Goal of Workshop	
Learning Outcomes <i>(as submitted in CEU papers)</i>	
Target Audience	
Frequency of Training Presentation	<input type="checkbox"/> Once <input type="checkbox"/> Quarterly <input type="checkbox"/> Other _____
Total Number of Trainings	
County Location(s)	<input type="checkbox"/> Collier <input type="checkbox"/> Glades/Hendry <input type="checkbox"/> Lee
Dates	
Time	
Proposed Site	
Site cost	
Site contact information	
Site finalized	
Research/source of information/curriculum	
Maximum number of attendees per training	
Registration	



## ELC Training Plan

### For:

*(Insert Training Title Here)*

Materials needed from ELC (copying etc)	
Refreshments <i>(list type and funding source)</i>	
Other <i>(family/participant stipend, etc and funding source)</i>	
Total Budget Request:	
Facility Layout	
Timeline	

Age Group: Check all that apply.

- Infants/toddlers   
  Preschoolers   
  VPK   
  School Age   
  All Age Groups

Competency Areas: Check the appropriate subject areas:

- Child Development and Learning                     
  Teaching & Learning  
 Building Family and Community Relationships                     
  Professionalism and Leadership  
 Observing, Documenting & Assessing to Support Young Children and Their Families  
 Program Management & Administration                     
  Health, Safety & Nutrition  
 Other:



## Checklist for CEU Approval

- ELC Training Plan
- Agenda
- Outline of training or power point
- Handouts
- Evaluation (ELCofSWFL form)
- Assessment of Learning Outcomes- see description below

### Learning Outcomes for Trainings

1. Material submitted for CEU approval must include clear written statements of intended learning outcomes for each learning event based on identified needs.
2. Learning outcomes must be clear, specific, concise and measurable
  - They state the performance the learner should be able to accomplish
  - They specify the conditions under which the learner is to perform
  - They specify the criteria for acceptable performance
  - They are directly related to the subject matter
3. Discussion of learning outcomes occurs at the beginning of the learning event, during the event and they are assessed the end of the event.

### Assessment of Objectives

1. Provide evidence of an assessment method for each learning outcome.
2. Assessment methods must demonstrate mastery of knowledge and skills identified for each learning event and must be complete before learners are awarded CEUs. Assessments may be hands-on demonstrations, check-lists, role-plays, paper and pencil questions and answers, group discussion (if all are included and can be documented) or other methods.
3. Instructors need to provide feedback to learners on the learning outcomes, as verified on learner evaluations.
4. Learners need to have the opportunity to re-do the assessments if they have not understood or cannot sufficiently reflect the outcomes learned.

## Computation of CEUs:

Step 1: Determine contact time using the following formula:  
$$\frac{(\text{total mins all activities}) - (\text{total mins non-allowable activities})}{60 \text{ mins}}$$

Step 2: \*Calculate the number of CEUs using the following formula:  
$$\frac{\text{contact time (hrs)}}{10 \text{ hrs}}$$

\*CEUs are rounded to the nearest tenth

### General Information

- 1) 1 CEU = 10 hours
- 2) The number of CEUs is calculated by evaluating the content that will be presented and ensuring that it will be covered in the appropriate amount of time, taking into consideration discussion time and questions. Only content and content related activities are included in the amount of time calculated; time for paperwork/introductions/ and other non-content oriented activities is not included.
- 3) Duration of the event will be determined by a pilot class, for which CEUs may be awarded. The participants must be representative of the target audience.
- 4) Some training will include both seat time and a quality work product or project which will be turned in later. CEUs are not granted until all work is submitted. The CEUs are calculated on the seat time plus the time estimated for the finished product to be completed.
- 5) To determine the length of a learning event — regardless of delivery mode — the Provider shall conduct a pilot study. This study shall be an accurate portrayal of the learning event, and shall involve individuals who represent the target audience of the training. CEUs may be issued to pilot study participants.
- 6) Partial credit or adjusted CEUs shall not be awarded for individuals who do not successfully meet the criteria for achievement of CEUs.
- 7) If a training changes from the originally calculated time to a different amount of time (from 2 to 3 hours for example), new documentation of the new content must be submitted and approved to justify a change in the CEU hours and subsequent changes must be made to assessments.