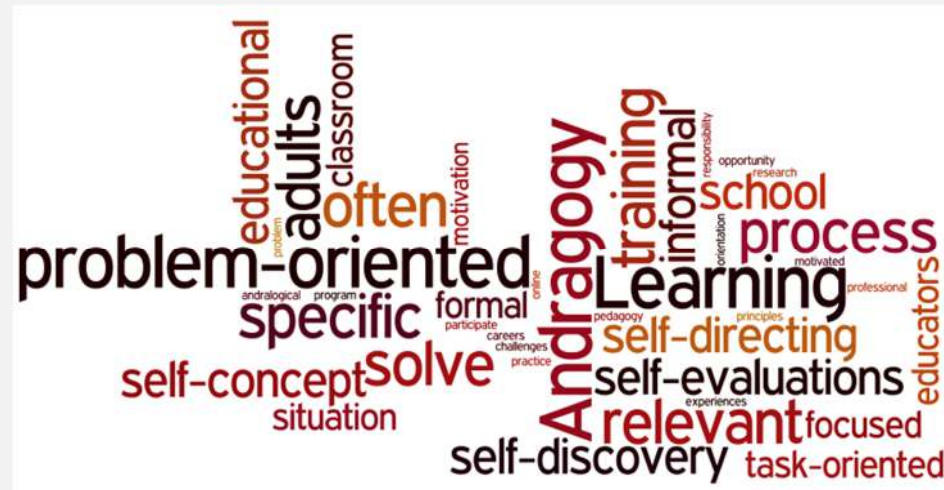


Training, Teaching, Instructing: What Is It Really?



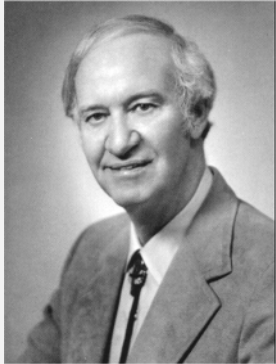
Andragogy (an·dra·go·gy)

The method and practice of teaching adult learners; adult education.

Pedagogy (ped·a·go·gy)

The method and practice of teaching, especially as an academic subject or theoretical concept.

Malcolm Shepherd Knowles (1913-1997)



Was an American adult educator, famous for the adoption of the theory of Andragogy—initially a term coined by the German teacher Alexander Kapp (1866). Knowles is credited with being a fundamental influence in the development of the Humanist Learning Theory and the use of learner constructed contracts or plans to guide learning experiences.

During his career he authored over 230 articles and 18 books, some of which include:

- Knowles, Malcolm S. (1950). Informal adult education: a guide for administrators, leaders, and teachers. New York: Association Press.
- Knowles, M. S., & Knowles, H. F. (1955). How to develop better leaders. New York: Association Press.
- Knowles, M. S., & Knowles, H. F. (1959). Introduction to group dynamics. Chicago: Association Press. Revised edition 1972 *published by New York: Cambridge Books.
- Knowles, M. S. (1968). Andragogy, not pedagogy. *Adult Leadership*, 16(10), 350–352, 386.
- Knowles, M. S. (1973). The adult learner: A neglected species. Houston: Gulf Publishing Company. Revised Edition 1990.
- Knowles, M. S. (1975). Self-directed learning: A guide for learners and teachers. Englewood Cliffs: Prentice Hall/Cambridge.
- Knowles, M. S. (1977). The adult education movement in the United States. Malabar, FL: Krieger.
- Knowles, M. S. (1980). The modern practice of adult education: From pedagogy to andragogy. Englewood Cliffs: Prentice Hall/Cambridge.
- Knowles, M. S., et al. (1984). Andragogy in action: Applying modern principles of adult education. San Francisco: Jossey-Bass.
- Knowles, M. S. (1986). Using learning contracts. San Francisco: Jossey-Bass.
- Knowles, M. S. (1989). The making of an adult educator: An autobiographical journey. San Francisco: Jossey-Bass.
- Knowles, Malcolm; Holton, E. F., III; Swanson, R. A. (2005). The adult learner: The definitive classic in adult education and human resource development (6th ed.). Burlington, MA: Elsevier.

Knowles' 6 Assumptions Of Adult Learners

In 1980, Knowles made 4 **assumptions** about the **characteristics of adult learners (andragogy)** that are different from the assumptions about child learners (pedagogy). In 1984, Knowles added the 5th assumption.

The Need to Know

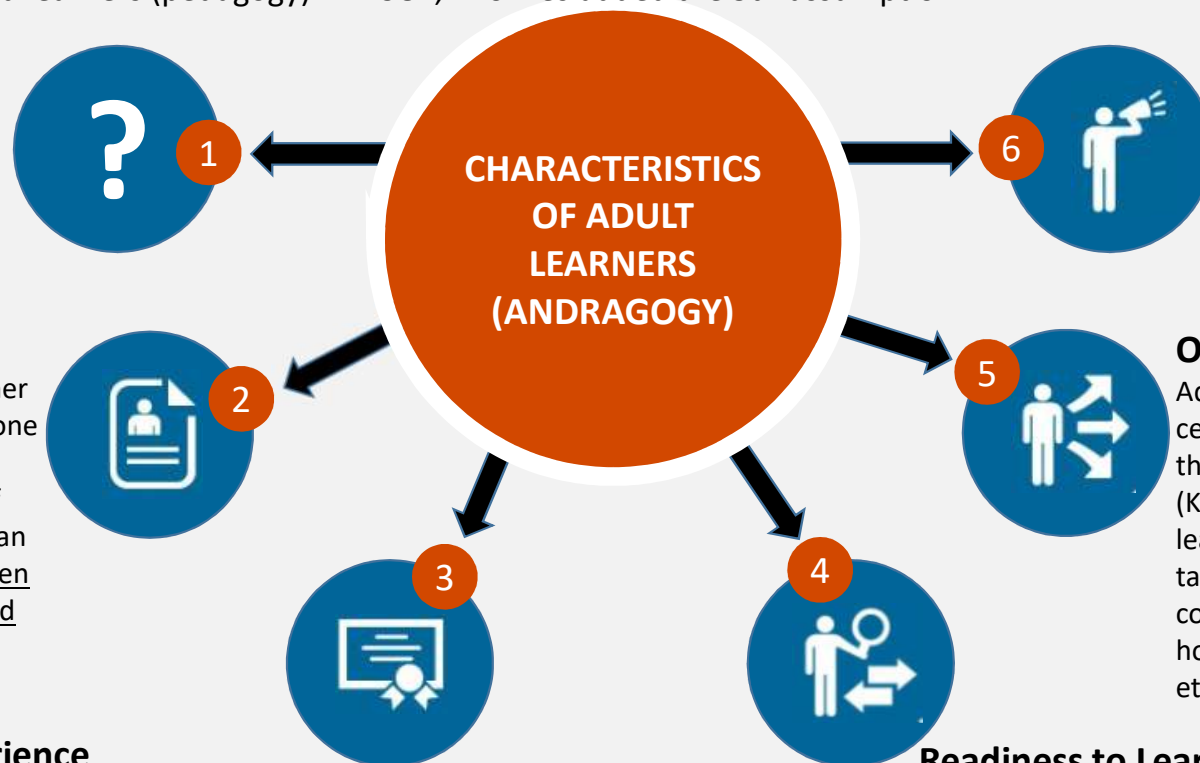
Adults want to know why they need to learn something before undertaking learning (Knowles et al., 2005).

Self-Concept

As a person matures his/her self concept moves from one of being a dependent personality toward one of being a self-directed human being. They need to be seen and treated as capable and self-directed.

Adult Learner Experience

There are individual differences in background, learning style, motivation, needs, interests, and goals, creating a greater need for individualization of teaching and learning strategies (Brookfield, 1986; Silberman & Auerbach, 1998).



Motivation to Learn

Adults are responsive to some external motivators (e.g., better job, higher salaries), but the most potent motivators are internal (e.g., desire for increased job satisfaction, self-esteem).

Orientation to Learning

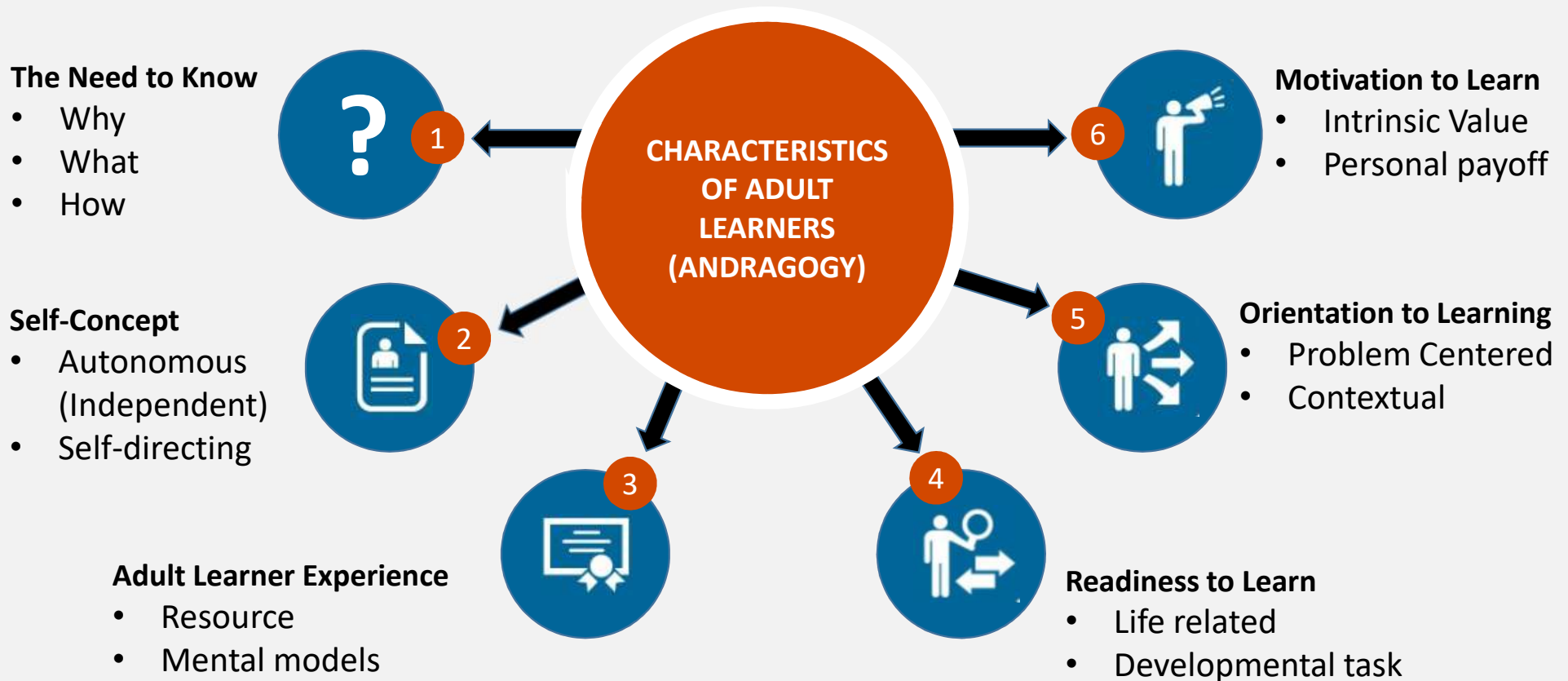
Adults are life-centered (task-centered, problem-centered) in their orientation to learning (Knowles et al., 2005). They want to learn what will help them: perform tasks, deal with problems they confront in everyday situations, and how it applies to real-life (Knowles et al., 2005).

Readiness to Learn

Adults become ready to learn things they need to know and do in order to cope effectively with real-life situations (Knowles et al., 2005).

Knowles' 6 Assumptions Of Adult Learners

In Simpler Terms



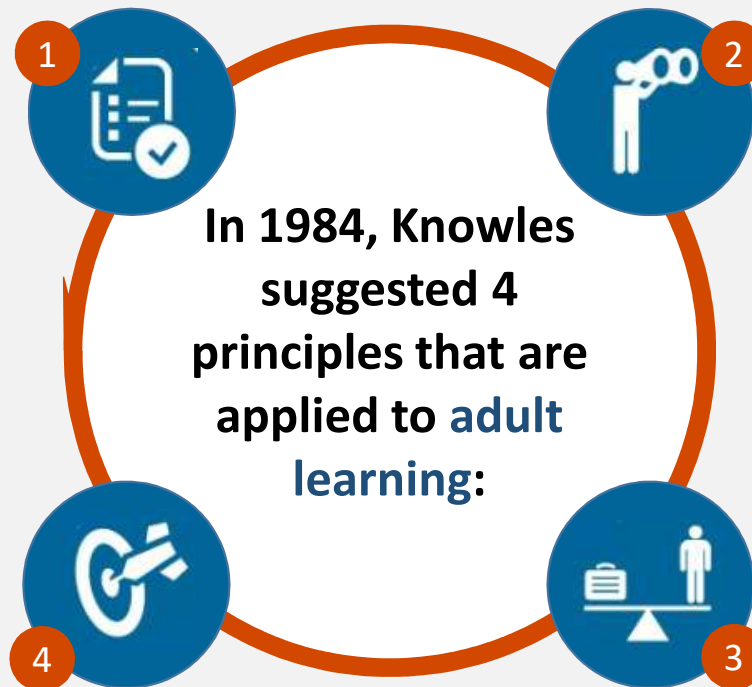
Knowles' 4 Principles Of Andragogy

Involved Adult Learners

Adults need to be involved in the planning and evaluation of their instruction.

Problem-Centered

Adult learning is problem-centered rather than content-oriented.
(Kearsley, 2010)



Adult Learners' Experience

Experience (including mistakes) provides the basis for the learning activities.

Relevance & Impact To Learners' Lives

Adults are most interested in learning subjects that have immediate relevance and impact to their job or personal life.

The ADDIE Instructional Design Model

The ADDIE Model provides such a process in five steps:

1. **Analysis:** Determine if training is appropriate, and define requirements for the training;
2. **Design:** Define objectives, build out the program and choose the methods and media;
3. **Development:** Conduct pilot courses using all materials in accordance with objectives;
4. **Implementation:** Implement 'version 1' of the training, evaluate it and refine it;
5. **Evaluation:** Perform evaluation at key milestones to ensure goals are being met.

Modern ideas about instructional design date back more than 50 years, with the ADDIE model appearing by the 1970s as a product of the United States military. By following the model, instructional design experts can take a data-driven approach that allows them to ensure systems are aligned with key goals. Plus, they have many opportunities to 'course correct' using periodic evaluation.

Styles of Learning: Visual, Auditory and Kinesthetic

1. **Visual:** These learners prefer to see the process demonstrated in a step-by-step way. They benefit from video demonstrations and from lectures that focus on watching an expert perform a task. They also tend to use traditional class notes more effectively than others.
2. **Auditory:** These learners are most effective when they listen to a process or concept being described. They benefit most from a traditional lecture. Participating by actively asking questions may help them learn better. They gain advantages from recording each lecture.
3. **Kinesthetic:** Kinesthetic learners learn best by performing tasks. This is true even if they have not quite mastered the concepts and need to use trial and error. They can use either of the other learning styles as a secondary tool, but will benefit the most from project-based learning.

Teaching and Learning Strategies

Lecture

- Lecture, a transmittal technique, is the method most widely used in teaching adults
- Should be used in 15- to 20-minute sections spaced with active learning activities to reenergize participants for the next wave of information.
- Lectures can create/motivate interest in new topics, further research, or challenge ideas they have previously taken for granted.

Problem-Based Learning

- Problem-based learning is an instructional strategy that encourages critical thinking and problem-solving skills.
- The trainer is in the role of a facilitator to stimulate, guide, integrate, and summarize discussions.
- Strategies for problem solving with adults include games, simulations, and role play.

Case Studies

- Case studies are narratives, situations, data samplings, or statements that present unresolved and provocative issues, situations, or questions.
- Case studies challenge adults to analyze, critique, make judgments, speculate, express opinions and bring real-world problems into the training.
- They ensure active participation and can result in better retention, recall, and use of learning outside the training.

Teaching and Learning Strategies

Educational Games

- Educational games involve learners in competition or achievement in relationship to a goal.
- Many games are simulations with the goal of modeling real-life problems or crisis situations.
- Encourage participants to confront their own attitudes and values through involvement in making decisions, solving problems, and reacting to results of their decisions.

Role Play

- Role play is used to assist participants in experiencing feelings and practicing skills towards a specific situation that contains two or more different viewpoints or perspectives.
- Situations can be written as a prepared brief, and different perspectives or roles are handed out to different people who discuss the situation.
- The situations should be realistic and relevant.

Discussion

- Known as a pattern teaching method for active learning.
- Encourages students to discover solutions and develop critical thinking abilities.
- Allows learners to be active and experience personal feedback
- Superior to lectures in adult learners' information retention; transfer of knowledge to new situations; problem solving, thinking, or attitude change; and motivation for further learning.

Training is the process to
prepare a learner to
physically complete a task.

What is needed to prepare this learner to complete the task?

 **Information**

 **Education**

 **Training**

Information

We are buried beneath the weight of information, which is being confused with knowledge; quantity is being confused with abundance and wealth with happiness.

Tom Waits

Information

Information is the conveyance and/or representation by a particular arrangement or sequence of data or things/objects.




✓ Information

The information provided to the learner for the task has to be relevant, pertinent, understandable, retainable and logical. Comprehensive...

Education

Education

Education requires 3 steps

-  Receiving the information
-  Comprehending the information
-  Applying the information

Education

Receiving the information

We must first decide if the information presented will be of value to our lives.

Education

Comprehending the information

Next we have to work on
understanding the information.

✓ Education

Applying the Information

Finally, we must be able to describe or show how the Information is used or can be used.

Training

□ Training

Teaching an individual a particular skill or behavior.

☐ Training

Components of Training

☐ Education

☐ Demonstration

☐ Evaluation

Education

You must verify the learner is educated on the Task of the Job Function to be performed.

Education

Verify the learner:

Received all pertinent Information.

✓ Education

Verify the learner:

Can apply all pertinent Information.

Demonstration

Demonstration

Show the learner how each Task of the Job Function is to be performed.

Demonstration

Have the learner perform the
Task of each Job Function
exactly as shown.

Demonstration

Have the learner repeat the
Task of each Job Function
multiple times as shown.

✓ Demonstration

The learner must move the behavior from the Conscious portion of the brain to the Subconscious portion of the brain.

Evaluation

❑ Evaluation

Assign the learner to work with and to be mentored/coached by an Expert.

Evaluation

The learner must be required to perform each Task of the Job Function in the actual work environment.

✓ Evaluation

The learner must perform each Task of the Job Function under all expected conditions multiple times.

- ✓ **Information**
- ✓ **Education**
- ✓ **Training**

OSHA Program Topic	OSHA Reference	Required Program	Required Audit	Required Training		Training Frequency		
				All	Affected	Initial	Annual	Periodic
Accident Reporting and Investigation Plan	1904.35	No	Yes	Yes	---	Yes	No	No
Anhydrous Ammonia Storage & Handling	1910.111	No	No	No	Yes	Yes	No	No
Bloodborne Pathogens Safety Program	1910.103	Yes	Yes	No	Yes	Yes	Yes	No
Compressed Gas Plan	1910.101	No	Yes	No	Yes	Yes	No	No
Confined Space Entry (Permit-Required)	1910.146	Yes	Yes	Yes	Yes	Yes	Yes	No
Dipping & Coating Operations	1910.122-126	No	Yes	No	Yes	Yes	No	No
Electrical Safety Plan	1910.331-335	Yes	Yes	No	Yes	Yes	No	Yes
Emergency Action Plan	1910.38	Yes	Yes	Yes	---	Yes	No	Yes
Ergonomics Plan	5(a)(1)	No	No	No	No	No	No	No
Fire Extinguisher Program	1910.157	Yes	Yes	No	Yes	Yes	Yes	No
Fire Prevention Plan	1910.39	Yes	Yes	No	Yes	Yes	No	Yes
Fire Protection Equipment Maintenance	Subpart L	Yes	Yes	No	Yes	Yes	No	No
First Aid Program	1910.151	No	No	No	Yes	Yes	Yes	No
Flammable & Combustible Liquids Safety	1910.106	No	Yes	No	Yes	Yes	No	No
General Working Spaces - Housekeeping	1910.141	No	No	No	No	No	No	No
Grain Handling Facilities	1910.272	Yes	Yes	No	Yes	Yes	Yes	No
Hand Tool Safety Program	1910.242	No	Yes	No	Yes	Yes	No	No
Hazard Communication Program	1910.12	Yes	Yes	Yes	---	Yes	No	Yes
Hazardous Waste Operations	1910.12	Yes	Yes	No	Yes	Yes	Yes	No
Hearing Conservation Program	1910.95	Yes *	Yes	No	Yes	Yes	Yes	No
Hot Work (Cutting/Welding) Program	1910.252-255	Yes	Yes	No	Yes	Yes	No	No
Indoor Air Quality Program	1910.1	Yes	No	No	Yes	Yes	Yes	Yes
Laboratory Safety Program	1910.145	Yes	Yes	No	Yes	Yes	No	Yes
Ladder Safety Program	1910.25-26	No	Yes	No	No	No	No	No
Laser Safety Program	5(a)(1)	No	No	No	No	No	No	No
LPG Safety Plan	1910.11	Yes	Yes	No	Yes	Yes	No	No
Lockout/Tagout	1910.147	Yes	Yes	Yes	---	Yes	No	Yes
Machine Safeguarding Program	1910.212	Yes	Yes	No	Yes	Yes	Yes	No
Material Handling & Crane Safety	1910.179/184	Yes	Yes	No	Yes	Yes	No	No
Means of Egress Compliance Program	1910.36-37	No	Yes	No	No	No	No	No
Medical Record Access	1910.102	Yes	No	Yes	---	Yes	Yes	No
Mechanical Power Presses	1910.217	Yes	Yes	No	Yes	Yes	Yes	Yes
Personal Protective Equipment Program	1910.132	Yes	No	No	Yes	Yes	No	Yes
Power Transmission/Generation	1910.269	Yes	Yes	No	Yes	Yes	Yes	No
Powered Industrial Truck Program	1910.178	Yes	Yes	No	Yes	Yes	No	Yes
Powered Platforms	1910.66	No	Yes	No	Yes	Yes	No	No
Process Safety Management	1910.119	Yes	Yes	No	Yes	Yes	No	3 Yrs
Radiation (Ionizing) Safety	1910.1096	Yes	Yes	No	Yes	Yes	Yes	No
Recordkeeping Practices & Reporting	1904	Yes	Yes	No	Yes	No	No	No
Respiratory Protection Program	1910.134	Yes *	Yes	No	Yes	Yes	Yes	No

Subpart I – Personal Protective Equipment

1910.132 General requirements

(f) Training

- (1) The employer shall provide training to each employee who is required by this section to use PPE. Each such employee shall be **trained to know at least** the following:
 - (i) **When** PPE is **necessary**;
 - (ii) **What** PPE is **necessary**;
 - (iii) **How to** properly don, doff, adjust and wear PPE;
 - (iv) **The limitations** of the PPE; and,
 - (v) The **proper care, maintenance, useful life, and disposal** of the PPE.

Subpart I – Personal Protective Equipment (cont.)

- (2) Each affected employee **shall demonstrate an understanding** of the training specified in paragraph (f)(1) of this section, **and the ability to use** PPE properly, **before being allowed to perform work requiring** the use of PPE.

Subpart I – Personal Protective Equipment (cont.)

- (3) When the employer **has reason to believe** that any affected employee who has already been trained **does not have the understanding and skill required** by paragraph (f)(2) of this section, the **employer shall retrain** each such employee. Circumstances where retraining is required include, but are not limited to, situations where:
- (i) **Changes** in the workplace render previous training obsolete, or
 - (ii) **Changes** in the types of PPE to be used render previous training obsolete; or
 - (iii) **Inadequacies** in an affected employee's knowledge or use of assigned PPE indicate that the employee **has not retained the requisite understanding or skill**.

Questions?