

# Principles of Adult Learning & Instructional Systems Design

## Adult Learning

As an instructor, you should have a basic understanding of how adults learn. Adult learners bring experiences and self-awareness to learning that younger learners do not. To understand adult learning, you should understand learning domains, learning styles, and how and why adults learn.

### Three Learning Domains

Educators have determined that most adults, adolescents, and children learn best by experiencing a blend of activities that promote the three learning domains: cognitive, affective, and behavioral. Cognitive refers to knowledge or a body of subject matter, affective refers to attitudes and beliefs, and behavior refers to practical application.

The table below shows examples of activities in each of the three domains.

COGNITIVE	AFFECTIVE	BEHAVIORAL
Lectures	Values clarification exercises	Role plays
Brainstorms	Nominal group process	Simulations
Discussions	Consensus-seeking activities	Teach backs

### Three Learning Styles

The three primary learning styles are: visual, auditory, and kinesthetic.

- **Visual** learners tend to learn by looking, seeing, viewing, and watching.

Visual learners need to see an instructor's facial expressions and body language to fully understand the content of a lesson. They tend to sit at the front of the classroom to avoid visual distractions. They tend to think in pictures and learn best from visual displays. During a lecture or discussion, they tend to take detailed notes to absorb information.

- **Auditory** learners tend to learn by listening, hearing, and speaking.

Auditory learners learn best through lectures, discussions, and brainstorming. They interpret the underlying meaning of speech by listening to voice tone, pitch, and speed and other speech nuances. Written information has little meaning to them until they hear it. They benefit best by reading text out loud and using a tape recorder.

- **Kinesthetic** learners tend to learn by experiencing, moving, and doing.

Kinesthetic learners learn best through a hands-on approach and actively exploring the physical world around them. They have difficulty sitting still for long periods of time, and easily become distracted by their need for activity and exploration.

We retain approximately 10 percent of what we see; 30 to 40 percent of what we see *and* hear; and 90 percent of what we see, hear, *and* do. We all have the capability to learn via all three styles, but are usually dominate in one.

The table below shows some of the methods that appeal to visual, auditory, and kinesthetic learners. Training should take into account all three styles.

VISUAL	AUDITORY	KINESTHETIC
Transparencies	Lectures	Role plays
Videos/Slides	Group discussions	Simulations
Flip charts	Informal conversations	Practice demonstrations
Readings	Stories and examples	Writing/Note taking
Demonstrations	Brainstorms	Activities

A copy of the Learning Style Self-Assessment that you completed during training can be found in Appendix A. You may use it in the courses you instruct if you want to.

**Adult Learning Assumptions**

Malcolm S. Knowles, a well-known expert on adult learning, has made the following assumptions regarding adult learners. Dr. Knowles also suggests how instructors should deal with each of these assumptions.

ASSUMPTION	WHAT IT MEANS TO ME
<p><b>Adults want to know why they should learn.</b></p> <p>Adults are motivated to put time and energy into learning if they know the benefits of learning and the costs of not learning.</p>	<p>Develop “a need to know” in your learners—make a case for the value of the learning in their lives. Help learners answer the question, “What’s in it for me?”</p>
<p><b>Adults need to take responsibility.</b></p> <p>By definition, adult learners have a self-concept of being in charge of their own lives and being responsible for their own decisions, and a need to be seen and treated as being capable of taking responsibility.</p>	<p>Realize that despite this self-concept and need for responsibility, once they enter a classroom many adults revert back to their school and college days when they tended to be passive learners. Do not fall into a trap of assuming that they want to learn passively. Empower them to learn and to take responsibility for learning. Enable learners to assess their own learning, similar to the self-assessment and feedback that you experienced during the Instructor Development course.</p>
<p><b>Adults bring experience to learning.</b></p> <p>That experience is a resource for themselves and for other learners, and gives richer meaning to new ideas and skills. Experience is a source of an adult’s self-identify.</p>	<p>Experience is both a plus and a minus. It is a plus because it is a vast resource. It is a minus because it can lead to biasness and presuppositions. Because adults define themselves by their experiences, respect and value that experience.</p>

ASSUMPTION	WHAT IT MEANS TO ME
<p><b>Adults are ready to learn when the need arises.</b></p> <p>Adults learn when they choose to learn and commit to learn. That desire to learn usually coincides with the transition from one developmental stage to another and is related to developmental tasks, such as career planning, acquiring job competencies, improving job performance, etc. Often, however, adults perceive employer-<i>provided</i> training as employer-<i>required</i> training.</p>	<p>Be aware that some learners might not want to be there. In which case, be honest. Acknowledge that fact and the fact that nothing can be done about it. Then, agree to make the most out of training nevertheless. On the other hand, be aware that for those who want to be in the class, training is important and they must walk away with something.</p>
<p><b>Adults are task-oriented.</b></p> <p>Education is subject-centered, but adult training should be task-centered. For example, a child in a school composition class learns grammar, and then sentence and paragraph construction. An adult in a composition training program learns how to write a business letter, a marketing plan, etc.</p>	<p>Organize content around tasks, not subjects.</p>

See "Adult Learning," by Malcolm S. Knowles, *The ASTD Training & Development Handbook: A Guide to Human Resource Development*, Robert L. Craig, editor, 1996

# Fundamentals of Instructional Systems Design (ISD)

Even though you are an instructor and not an instructional designer, you should have an appreciation of the fundamentals of instructional design. You might find yourself in a position where the instructional materials that you have been provided are not as well suited to adult learning as they could be. Or, you might find yourself in a position where you need to modify the materials to fit a specific audience.

This section will give you a basic knowledge of instructional design, and enable you to recognize and apply basic, effective instructional design methods.

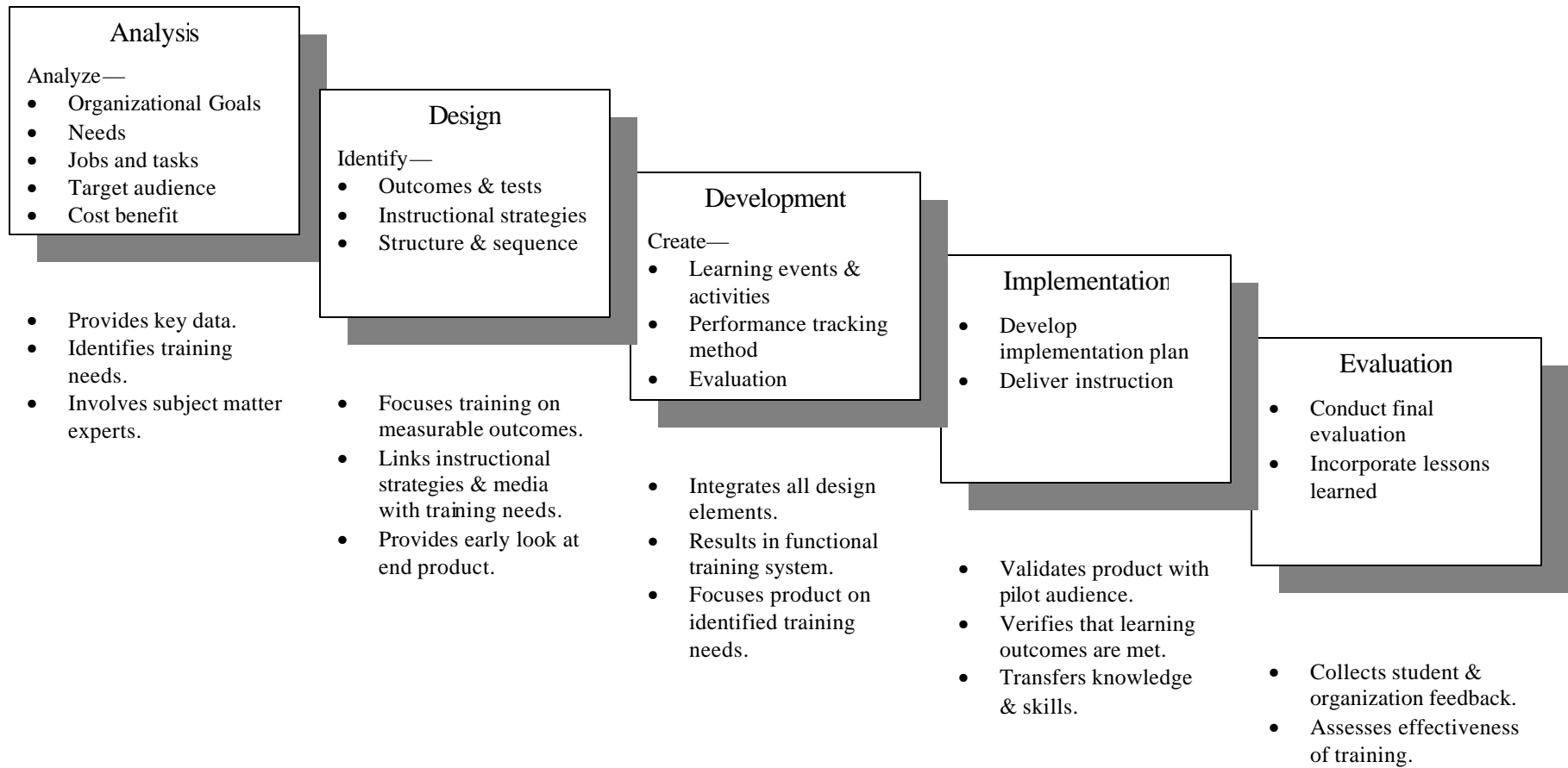
## The Instructional System Design Model

Good instructional design is based on the industry-standard Instructional System Design (ISD) model. The ISD model comprises five stages—analysis, design, development, implementation, and evaluation—and is a systems approach to instructional design in that it views “human organizations and activities as systems in which inputs, outputs, processes (throughputs), and feedback and control elements are the salient features.” The ISD model is—

- Systematic, in that prescribed steps follow a logical order.
- Systemic, in that the steps cover the processes that are critical for success.
- Reliable, in that the steps are described in sufficient detail to be universally applied.
- Iterative, in that one might repeat the cycle of analysis, design, development, implementation, and evaluation a number of times during any given project.
- Empirical, in that data gathering is built into the process, enabling designers to make decisions based on that data.

See Michael Molenda, James A. Pershing, and Charles M. Reigeluth, “Designing Instructional Systems,” *The ASTD Training & Development Handbook*, Robert L. Craig, ed.

The diagram on the next page succinctly identifies the five stages of the ISD model, and the major activities that comprise each stage.



**Instructional System Design Model**

---

**Learning  
Outcomes**

Because adult learners are task-centered, adult training should be task-centered. Consequently, adult learning should be based on measurable, task-centered learning outcomes. Inherent to good instructional design is the definition of clear learning outcomes. Dr. Robert Mager, a well-known figure in training design, defines learning outcomes (which he calls “learning objectives”) in this way:

**Robert Mager on Learning Objectives**

“[Learning] Objectives are a little like blueprints. They provide the guides that will guarantee that you are teaching what needs to be taught...Statements describing intended instructional outcomes are called objectives because their accomplishment can be measured. *Goals* are broad (fuzzy) statements of intent; *objectives* are measurable statements of intent. In plain language, if an outcome statement isn’t precise enough to measure whether the outcome has been achieved, it isn’t an objective.”

“An objective describes student performance. It doesn’t say anything about what the instructor will do or try to accomplish. It doesn’t describe course content or the textbook.”

“An objective is about end rather than means. It describes a product of instruction rather than the process of instruction. It describes what students will be able to do when they are competent, rather than describing how they will be made competent.”

Robert F. Mager, *Making Instruction Work*, pages 73-75

The learning outcomes you will encounter in the Instructor Development Course are task-centered and measurable.

The following tips will help you develop task-oriented, measurable learning outcomes.

### Tips for Writing Learning Outcomes

Look at skills necessary to perform a given task.

Tie a single outcome to a single task or skill (a task or skill may have more than one learning outcome, but a learning outcome should have only one task or skill associated with it).

If you cannot measure an outcome in some way, re-write it so that you can.

Use active verbs appropriate to what you want to measure. Refer to the Writing Behavioral Learning Outcomes handout (included as Appendix B).

Developing good learning outcomes is a process as described below.

- *Identify the tasks* that people must perform in order to carry out their jobs.
- Once you have identified the tasks, *analyze each task* to determine how a competent person performs that task. Answer these questions: While performing the task, what steps does that person follow? What decisions does that person make?
- From there, *identify the skills* necessary to perform the task.
- With that information in hand, *write the learning outcomes*.
- *Determine prerequisite relationships* among the learning outcomes. Does one skill need to be mastered before another?

Once this process is complete, you can develop and organize the instruction that enables students to master learning outcomes.

See Robert Mager, *Preparing Instructional Objectives*, chapter 3.

### Organization

How to best organize training is dependent on the learning outcomes. Arrange outcomes in a way that shows how they relate to each other. In this way, you can create a hierarchy that shows a prerequisite relationship among the tasks or skills that you intend to train. How would you have reacted if the instructor of this course



came in the first day, described the course, asked you to conduct a mock training for which you would be evaluated, and said, “OK, that’s it; end of course”? You probably would have been ill prepared to pass the course. Instead, the instructor spent time on the small blocks of knowledge and skills necessary to prepare you to conduct a presentation, and gave you an opportunity to develop that presentation.

Some tasks and skills stand-alone; they are not dependent on other tasks and skills. So, you can teach the learning outcomes associated with these skills in any order you choose. Take advantage of those instances to allow learners to have a say in which order they learn those tasks and skills or to make prudent use of available resources.

Knowing your audience also is vital to effectively organizing outcomes and training content. The Assessing the Situation section of Chapter 4 will help you gain that knowledge.

As you organize content, identify the main points necessary to accomplish each learning outcome. Answer the question, “What must the students know and be able to do when they leave this course?” Make an itemized list and then fully develop each item. As you deliver training, be sure to identify the learning outcome up front and then instruct specifically to that outcome. Before moving on to a new topic, revisit the outcome and ensure the students can accomplish it.

See Robert F. Mager, *Making Instruction Work*, Chapters 7 and 8, 1997

**Interactive  
Instruction**

To involve adults in their own learning and adhere to adult learning principles, introduce interactivity wherever possible into your instruction. When training tasks and skills, ensure they have opportunities to actually *do* those tasks and skills. The majority of the Instructor Development Course, which trains instructor tasks and skills, is spent developing and delivering a presentation, which is highly interactive. Some tasks and skills lend themselves to interaction more easily than others, so you might have to be creative. In those cases, look for opportunities to use case studies, brainstorming exercises, facilitated discussions, role-plays, problem solving, etc. Use the experience of your adult learners to help you introduce interactivity.

**Content vs.  
Connection vs.  
Application**

Some training courses depend too much on cognitive learning, using only lectures, slide presentations. This type of learning requires the learner to passively absorb and retain large amounts of *content*. To retain learning, learners need opportunities to make a *connection* with the content and *apply* the learning to real-life.

The diagram that appears on the next page illustrates the balance of content, connection, and application and how they relate to the three learning domains. The *inverted* triangle represents training in which content is primary and takes the majority of the time to impart, usually through one-way didactic presentations with periodic opportunities for audience questions. The *upright* triangle represents the more interactive design, in which learners have application opportunities using demonstrations, workshops, case studies, or other engaging methods. Tailor the courses you instruct to use the upright triangle.

