

9

Individual Learning Styles

The concept of learning styles is both theoretical and practical. A facilitator must understand and apply techniques that recognize each learning style. A learning style represents how a learner approaches acquiring knowledge or developing a change in behavior. Each learner is motivated through different methods, which influence learning performance, such as environment, psychological comfort, social styles, and profiles.

Learning Objectives:

- ☑ Explain David Kolb's four basic learning styles.
- ☑ List the four elements of Ned Herrmann's brain-based approach and briefly explain each.
- ☑ Summarize the visual, auditory, and kinesthetic (VAK) model.
- ☑ Explain why it is important for instructors to understand the various intake methods described in the VAK model when delivering training.
- ☑ Describe Howard Gardener's 10 multiple intelligences.
- ☑ List the seven preferred learning modes outlined in the perceptual modality model.
- ☑ Define characteristics of adults as learners (CAL) and chain of response (COR) as part of Patricia Cross' adult learning model.
- ☑ Explain the purpose of accelerated learning techniques.
- ☑ State three key principles of accelerated learning.
- ☑ Summarize Silver and Hanson's learning style inventory and how it applies to training delivery.
- ☑ List two factors that may affect the speed at which adults learn.
- ☑ List two considerations for identifying training and presenting styles.
- ☑ Discuss one type of tool used to determine learning style preferences and how it is applied.
- ☑ Discuss the importance of training needs assessment to determine learning preferences when delivering training.

Theories of How Humans Learn Best

Many people have theories about how humans learn best. David Kolb (1984), for example, presents four learning styles: the converger, the diverger, the assimilator, and the accommodator. Another theory was developed by W.E. (Ned) Herrmann (1990). His research shows brain specialization in four quadrants and that each quadrant has its own preferred way of learning. A third theory, neurolinguistic programming (NLP), proposes that everyone takes information in through three modalities: visual, auditory, and kinesthetic.

As a trainer, it's important to understand these theories and types of learning to increase the likelihood of appealing to each learner's style and to help participants achieve their learning goals.

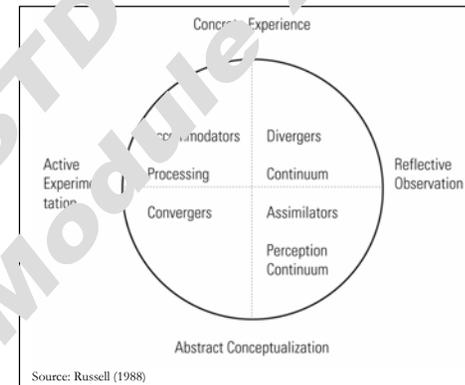
Kolb's Learning Style Inventory

David Kolb's learning style inventory is part of his work in experiential learning, which he describes as an "integrative perspective that combines experience, perception, cognition, and behavior." His impressive body of research relates learning styles to

- Jung's personality types
- educational specialization
- careers and jobs
- adaptive consequences.

Kolb has written about learners' orientation to four learning modes: concrete experience, reflective observation, abstract conceptualization, and active experimentation, as depicted in Figure 9-1.

Figure 9-1. Kolb's Learning Styles



Active experimentation and reflective observation operate along a processing continuum, while concrete experience and abstract conceptualization operate along a perception continuum. These are Kolb's four orientations, along with the training style that's most appropriate for working with each type of learner:

- **Concrete experience:** This orientation emphasizes feeling as opposed to thinking. People with this orientation take an artistic approach. They are intuitive and open minded and do well in the absence of structure. Trainers of people with this orientation should function as motivators.
- **Reflective observation:** This orientation involves understanding the meaning of ideas and situations by carefully observing and impartially describing them. People with this orientation can see the implications of different approaches and are good at understanding different points of view. Instructors of people with this orientation should function as experts.
- **Abstract conceptualization:** This orientation concentrates on thinking as opposed to feeling. People with this orientation like to take a scientific, systematic approach and like working with symbols and analyzing information to formulate general theories. Their trainers should serve as coaches, providing guided practice and feedback.
- **Active experimentation:** This orientation focuses on actively influencing people and changing situations, and it emphasizes practical applications. People with this orientation like to get things done. Instructors of these people should stay out of the way, providing maximum opportunity for learners to discover for themselves.

Kolb asserts that the key to effective learning is being competent in each mode when appropriate. Kolb's learning style inventory identifies a person's learning style according to the quadrants between pairs of modes, and it's scored and plotted to indicate where in a quadrant a person's responses fall. Kolb categorizes learners and their respective "adaptive competencies" as follows:

- **Convergers:** These people do best with one right answer tests and situations. They are strong in solving technical problems but don't fare as well in interpersonal dealings. They are decisive, experiment with new possibilities, and set goals.
- **Divergers:** These people are imaginative and sensitive to meanings, values, and feelings. They keep an open mind, gather information, and can envision the implications of situations and choices.
- **Assimilators:** These people are good at creating abstract models. They organize information, test theories, design tests and experiments, analyze quantitative information, and can construct conceptual models.
- **Accommodators:** These people take risks, adapt to circumstances, and take action. They often work by trial and error, depend on other people for analysis of information, and may be viewed as impatient by more contemplative types. They look for and use opportunities, are involved and committed, and can work well with, or lead, people.

Herrmann's Brain-Based Approach to Learning

The Herrmann Brain Dominance Instrument (1990) is a method of personality testing developed by W.E. (Ned) Herrmann that classifies learners in terms of preferences for thinking in four different modes based on brain function:

- **left brain, cerebral:** logic, analytical, quantitative, factual, critical
- **left brain, limbic:** sequential, organized, planned, detailed, structured
- **right brain, limbic:** emotional, interpersonal, sensory, kinesthetic, symbolic
- **right brain, cerebral:** visual, holistic, creative.

For more information on Herrmann, see Module 1, *Designing Learning*, Chapter 1, "Cognition and Adult Learning Theory."

Neurolinguistic Programming and Modes of Learning

For years, studies on how people prefer to get new information have been conducted in the field of neurolinguistic programming (NLP). Learners distinguish between external experience (information received from the environment through the five senses) and internal experience (what happens inside).

These studies have found that learner preferences fall into three categories, often referred to as the VAK model:

- **Visual:** Intake by seeing. Visual learners prefer pictures, diagrams, and other visuals. They probably need to see something to know it. They may have an artistic ability and a strong sense of color. They may have difficulty following directions or learning from lectures or might overreact to noise or misinterpret words.
- **Auditory:** Intake by hearing. Auditory learners prefer to get information by listening. They need to hear something to know it. They may have difficulty following written directions or completing any activity that includes reading.
- **Kinesthetic:** Intake by doing and touching. Kinesthetic learners prefer hands-on learning. They need to do something to know it. They assemble things without reading directions and usually have good spatial perception. They learn best when they are actively involved.

People vary in their orientation toward these three styles. Some learn primarily through one style, and others use a combination of all three styles. Intake styles are not the same as intelligence. Whether people prefer to learn by seeing, hearing, or doing has no bearing on how intelligent they are. It's just their preference for receiving new information. Preferred learning styles determine how learners assimilate, sort, retain, retrieve, and reproduce new information.

A trainer usually encounters all these learning styles in a training session at some point and should use the following tips to address all learning preferences in a group:

Awareness of Matching Learner and Trainer Styles

Awareness of style differences—both the trainer’s own and those of participants—is useful in several ways. First, it captures the cognitive and affective differences between trainer and learner. Second, it should encourage the use of a wider variety of teaching techniques. Third, it helps learners understand their own styles and preferences better. Finally, it enables the trainer and learners alike to be more accepting of differences among people. In this manner, new means of communication are established with the diverse participants that most trainers face in the workplace. Whatever their own styles, trainers and developers have much to think about and do in the continuing discussion, application, and research of training and learning styles.

Tools for Determining Learning Preferences

The importance of distinguishing the difference between an organizational learning need and the learning style behavior of an organization’s learners should be emphasized when choosing a tool for determining learning preferences. Many widely used learning style inventories assess personality differences, information-processing styles, social interaction differences, and instructional preferences and can yield useful learner profiles. Trainers should have adequate instruction in proper administration, scoring, interpretation, and application of these tools.

Instructional preference inventories address a person’s preferred environment for learning. Among these tools are the following:

- **PEPS:** The Productivity Environmental Preference Survey, commonly known as PEPS, was developed by Rita Dunn in collaboration with Kenneth Dunn and Gary Price. It identifies these adult preferences for conditions in a working and learning environment:
 - preferred physical environment (sound, light, temperature)
 - emotionality (taking responsibility for a task, persistence)
 - sociological needs (self or group orientation)
 - physical needs for learning (perceptual preference, biorhythms, need to move around).
- **Canfield Learning Style Inventory:** Developed by Albert Canfield, this inventory assesses learning influences, such as
 - conditions (preference for an affiliation or competition)
 - content (preference for inanimate help, such as computer-based training versus help from people)

- mode of learning (preference for listening, reading, direct experience, and so forth)
- expectation of success.

- **Learning Style Questionnaire.** Developed in England by Peter Honey and Alan Mumford, this instrument categorizes a learner as primarily

- an activist who likes doing things, if only for the sake of doing
- a reflector who stands back to think
- a theorist who wants things tidy and rational
- a pragmatist who prefers to get on with whatever works.

Honey and Mumford have correlated their work to Kolb’s experiential learning cycle. They suggest that after learners become aware of their learning styles, they can accept them by building on their strengths and recognizing limitations or work to develop skills in their styles’ weak spots.

Importance of Training Needs Assessment

Instructional preference inventories address a person’s preferred environment for learning; however, trainers should not forget about another key component for training delivery—needs assessment.

Although training itself certainly provides skills, learning, and development, training needs assessment is the preliminary process that ensures training is grounded in the organization’s needs. Without needs assessment, trainers risk developing and delivering training that doesn’t support organizational needs and, therefore, does not deliver value to the organization and may not be accepted by participants.

A formal needs assessment establishes that there is in fact a business need that drives a performance need; drives a true training need; identifies the specifics for the desired training; and, finally, identifies any nontraining issues that affect the performance situation. Trainers also conduct informal needs assessments to confirm and gauge learner needs. Trainers often gather in-class information at the start of a session by asking learners what goals they want to accomplish when the training is completed.

✓ Chapter 9 Knowledge Check

1. A trainer observes a learner consistently struggling to follow directions that have been given verbally to the class. According to neurolinguistic programming and the VAK model, which of the following strategies should the trainer try to help the learner start and complete the activity?
 - a. Write the directions on a flipchart.
 - b. Speak louder and enunciate more clearly.
 - c. Use more exaggerated body language.
 - d. Create activities in which learners repeat the information or steps.
2. Which of the following best describes David Kolb's philosophy?
 - a. He outlines four learning modes—concrete experience, reflective observation, abstract conceptualization, and active experimentation—and explains that the key to effective learning is being competent in each mode when appropriate.
 - b. He conducted studies in neurolinguistic programming that showed a person's preference to get information falls into three categories: visual, auditory, and kinesthetic.
 - c. He believes that intelligence is more multifaceted, and traditional measures, such as IQ tests and SATs, don't accurately measure all its facets. He defined intelligence as a measurable aptitude, an aptitude that can be used to create and solve problems, and an aptitude valued by the culture.
 - d. He defined a learner's perceptual modality and the preferred mode of learning as one of the following: print, visual, aural, interactive, tactile, kinesthetic, and olfactory.
3. Which researcher(s) adapted a learning style inventory from the Myers-Briggs Type Indicator to create a spectrum of four distinct learning styles: sensing-thinking, intuitive-thinking, sensing-feeling, and intuitive-feeling?
 - a. Kolb
 - b. Silver and Hanson
 - c. Gardner
 - d. Herrmann
4. Which of the following best describes Howard Gardner's philosophy?
 - a. He outlines four learning modes: concrete experience, reflective observation, abstract conceptualization, and active experimentation and that the key to effective learning is being competent in each mode when it is appropriate.
 - b. He conducted studies in neurolinguistic programming that showed that individuals' preferences to get information fall into three categories: visual, auditory, and kinesthetic.
 - c. He believes that intelligence is more multifaceted and that traditional measures, such as IQ tests and SATs, do not accurately measure all its facets. He defined intelligence as a measurable aptitude, an aptitude that can be used to create and solve problems, and an aptitude valued by the culture.
 - d. He defined a learner's "perceptual modality," and the preferred mode of learning as one of the following: print, visual, aural, interactive, tactile, kinesthetic, and olfactory.
5. Which of the following best describes Ned Herrmann's approach?
 - a. Accelerated learning
 - b. Neurolinguistic programming
 - c. Multiple intelligences
 - d. Brain-based learning
6. According to the perceptual modalities theory, a learner's preferred mode of learning may include all the following except
 - a. Print
 - b. Visual
 - c. Kinesthetic
 - d. Brain-based
7. All the following factors may affect the speed at which adults learn except
 - a. Psychological
 - b. Emotional
 - c. Analytical
 - d. Age
8. Patricia Cross's CAL framework provides a means for thinking about the ever-changing adult in terms of developmental stages.
 - a. True
 - b. False
9. The technique of producing a consistently positive learning experience that allows learners to acquire information and skills to more efficiently retrieve, recall, or respond with confidence, quickness, and accuracy best describes which approach?
 - a. Accelerated learning
 - b. Neurolinguistic programming
 - c. Multiple intelligences
 - d. Brain-based learning