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**“We can teach the way we were taught, or
we can teach the way people learn.”**

Adult Learning Theories and Practices¹

This brief article provides a basic framework for the instructor to consider as they plan and deliver training to adult learners. The theories and practices are based on long-standing research and data with regard to effective ways to train adults in any learning environment. Some you may be familiar with, others may be new to you.

We believe learning is best accomplished as a social activity, while teaching is a deliberate act. To support the deliberate act of teaching, it is important to have a foundation of understanding about theories. Understanding these theories will assist you to become more effective and more conscious in your teaching.

Active Learning

Active learning is defined as the use of one or more interactive approaches to education and training for the purpose of engaging students in their work to acquire and understand knowledge. The active learning classroom is one that de-emphasizes lecture and other teacher-centered forms of instruction in favor of engaged class environments that are learner centered. Examples of active learning in the professional training environment are:

- Adult learning activities such as role plays, scenarios or similar training approaches
- Inquiry-based dialogue using protocols to surface the thinking of learners

¹ Article adapted from: Kendall Zoller and Bob Harrison, (2007). The Advanced Facilitation Skills Course Student Workbook. CA Commission on POST

- Experiential learning activities or exercises (note: students don't learn from experience, they learn from reflecting on experiences in an educational setting)
- Paired or small group work
- Problem solving exercises
- Blended learning using appropriate technological resources to support training
- Case study exercises
- Problem-based learning exercises
- Individual, group and class work using visual, auditory or kinesthetic stimuli to prompt discussion, discourse and related class work.

Adult Learning Concepts (Malcolm Knowles, et al)

One foundation for the transition to active adult learning is found in the adult learning theory of Malcolm Knowles in his studies of how adults learn. There are some similarities in the adult and child classroom, although adults generally have distinctly different motivations to engage in learning. The ALC models reflect these differences from traditional teacher-centered models of child and adolescent education.² Instructors should be familiar with Knowles' research as a foundation to develop effective lessons and delivering them in a manner best-suited to the learner. Adult learning theory is founded on the principles that effective training is:

- **Relevant** – to the experience or intended experience of the adult learner. Whereas children and adolescents will attempt to learn content isolated from its application, adults learn best when they see the relevance of the taught concept to their experience
- **Engaged** – the adult learner retains knowledge and concepts more readily if they are engaged in the process of discovery and exploration rather than being the recipient of information
- **Active** – the learning process should be active, and replicate as closely as possible the environment within which the skill or knowledge will be applied. Rather than memorizing code sections, adults would retain and apply knowledge more effectively if they worked to discover the content, and then were able to practice its application in a simulation or scenario.
- **Learner-centered** – The traditional classroom taught concepts and prepared students to pass tests and other measures of their progress. Unfortunately, the student's retention of that knowledge was often nominal beyond the confines of the class. The emerging intent of police academy training is to produce the most effective outcomes possible; to see

² Expanding on his earlier work, *Informal Adult Education* (1950), Malcolm Knowles published *The Modern Practice of Adult Education – Andragogy versus Pedagogy* (1970) which propelled the movement to distinguish adult learners and their motivations to learn (andragogy) as opposed to children and adolescent learners (pedagogy). Knowles work generated more than 200 professional articles by others in the next decade, and remains a significant foundation for all subsequent theory.

students apply classroom skills in a real-world setting. The focus on the learner acquiring knowledge, is a critical step in effective training

Instructional Systems Design

There are a variety of ways to approach the planning and execution of instruction in any educational setting. This is commonly termed “Instructional Design” or Instructional Systems Design” (ISD). ISD focuses on the most appropriate means of intervention to move the current state to an intended different future, to address deficiencies in conduct or outcome or to train in a manner that is systemic and replicable by others. There are two dominant methodologies in use by ISD participants; one is ADDIE (Analysis, Design, Develop, Implement, and Evaluate), the other relies on Criterion-Referenced Instruction (CRI) protocols found in the work of Robert Mager. Although Mager’s methodology may be seen in many planning texts, ADDIE and more outcome-based approaches have more validity when planning adult learning intended to transfer knowledge and abilities in the policing environment. The specific ISD approaches are not mutually exclusive, and the teacher planning training should assess which model could work best for their specific setting.

Refer also to the work of Jay McTighe and Grant Wiggins for in-depth presentation of Understanding by Design (UbD) outcome-based lesson planning as a component of ISD. They have published extensively on UbD, and the meaning of “understanding” as an outcome of training. One of the most powerful frames for UbD is what the learner should “know and be able to do” at the conclusion of your training efforts.

Problem Solving and Problem Based Learning

Moving most significantly away from lecture- or content-first teaching approaches, problem solving focuses on learning through the context of a problem, and moves the learner into a “learning predicament” to emphasize self-discovery. Problem-Based Learning (PBL) is a problem solving methodology being used in field training programs and some basic course academies nationally. When presented with a problem scenario, students work in one of many roles relevant to the problem, generally to determine

- What do we know?
- What don’t we know that is necessary to find solutions to the problem?
- What do we need to find out, learn or discover?
- What solution/s would impact the problem in a manner desired?

Learning Styles and their Impact in Training (Rita Dunn)

VAK – Concepts related to the learning styles of those present in the training environment and their impact on receiving and processing concepts is based in

the research of Rita Dunn. All normally-functioning adults receive stimuli in their surroundings from visual, auditory, tactile-kinesthetic, olfactory and gustatory senses. The visual, auditory (hearing) and tactile-kinesthetic (touch and movement) (VAK) are normally addressed as primary and secondary styles or preferences of acquiring and processing information in learning.

Dunn's assertion is we each develop a preference for one of the modes of sensory input, and will use it as a primary screen to process meaning. Recognizing the learning styles of trainees may be valuable to the teacher in a variety of ways. Most commonly, those aware of these differences alter the training environment to modulate through the styles on a routine basis to ensure all present are accessing and processing desired skills and concepts. It is important to note the dominant style may not be the same for all tasks, and that learners may tend to revert to the dominant style as stress increases. Some thoughts regarding modifying the learning experience to maximize participation are:

- Visual learners generally like to learn through reading and writing tasks or through the use of charts, demonstrations, videos and other visual materials. They often easily visualize faces and seldom get lost in new places
- Auditory learners often talk to themselves; they may also move their lips or read aloud. They may have difficulty with reading or writing tasks, doing better talking to a peer and hearing what was said.
- Kinesthetic learners do best while touching and moving. They may lose concentration if there is little or no external stimulation or movement. They may want to take notes by drawing pictures, doodling or by making diagrams. When reading, they may want to scan the material first, and then focus on the details

Multiple Intelligences (Howard Gardner)³

Gardner's research asserts we have many levels of "intelligence" and use one or two for the most effective learning. Our traditional teaching and testing focuses on two such intelligences; verbal/linguistic and logical/mathematical. Gardner proposes there are at least five other kinds of intelligence that are equally as important, cutting through language, cultural and educational barriers. They are:

- Musical – sensitive to pitch, melody, rhythm and tone; awareness, appreciation and use of sound; recognition of tonal and rhythmic patterns
- Spatial/Visual – perceive the world and try to recreate it or transform aspects of it; creation and interpretation of visual images; understands relation between images and meaning
- Bodily kinesthetic – uses the body skillfully, like a dancer or athlete; eye and body coordination; manual dexterity

³ Gardner, Howard. (1999). *Intelligence Reframed – Multiple intelligences for the 21st century*. New York. Basic Books

- Intrapersonal – possesses the ability to access one’s emotional life to understand oneself and others; self-aware and aware of how self impacts the environment around them; understands need for change in relation to the environment
- Interpersonal – connected to the intricacies and subtleties of the world around them, especially the physical world or environment; understands the relationship between people and their environment or situation

Gardner draws evidence from the fields of biology, anthropology and the creative arts to form conclusions regarding the ways in which MI might be used in learning settings. Most prominent are:

- Individuals should be encouraged to use their preferred intelligences in learning
- Instructional activities should be varied to appeal to the different preferences amongst learners in the teaching environment
- Formative (in the moment) and summative (end of training) assessment should consider the different intelligences and seek to measure them across multiple forms

Conditions of Learning (Robert Gagne)⁴

Gagne stipulates there are different types and levels of learning; each requiring a different type of instruction. The major categories he identifies are: verbal information, intellectual skills, motor skills, cognitive strategies and attitudes. The differences also drive a need to develop a cognitive process for the planning and delivery of training to maximize the learning at each level. The conditions (or events) are:

- Gaining attention of the learner
- Informing learners of the objectives of the instruction
- Stimulating recall of prior learning
- Presenting the stimulus (causing the “need to learn”)
- Providing learning guidance (exit directions, process management)
- Eliciting performance (learning activities)
- Providing feedback (dialogue, questions, prompts to critical thinking)
- Assessing performance (both in the moment and end-state)
- Enhancing retention and transfer

Gagne’s specific focus is on intellectual skills, and has been applied to instructional systems design across a broad spectrum of domains. Key points to consider in this theory are:

- Differing types of learning experiences are required for differing learning outcomes or objectives
- The events listed impact the learner in a way that facilitates the conditions of learning

⁴ Gagne, Robert. (1992) with Leslie Briggs & Walter Wager. Principles of Instructional Design (4th ed.). Boston. Wadsworth Publishing

- The specific design and delivery methods used will change as learning outcomes change
- The learning hierarchies (e.g., Bloom's Taxonomy) define what skills are to be learned and their sequence in the learning environment

Experiential Learning (David Kolb)⁵

David Kolb published his experiential learning theory (ELT) in 1984, along with a Learning Styles Inventory (LSI) building on the work of Carl Rogers, Jung and Piaget. ELT is closely related to theories such as Multiple Intelligences and VAK in that all acknowledge the differences amongst individuals as they seek to construct an understanding of their internal and external environment, and is related to assessments in the Myers-Briggs Type Indicator (MBTI).

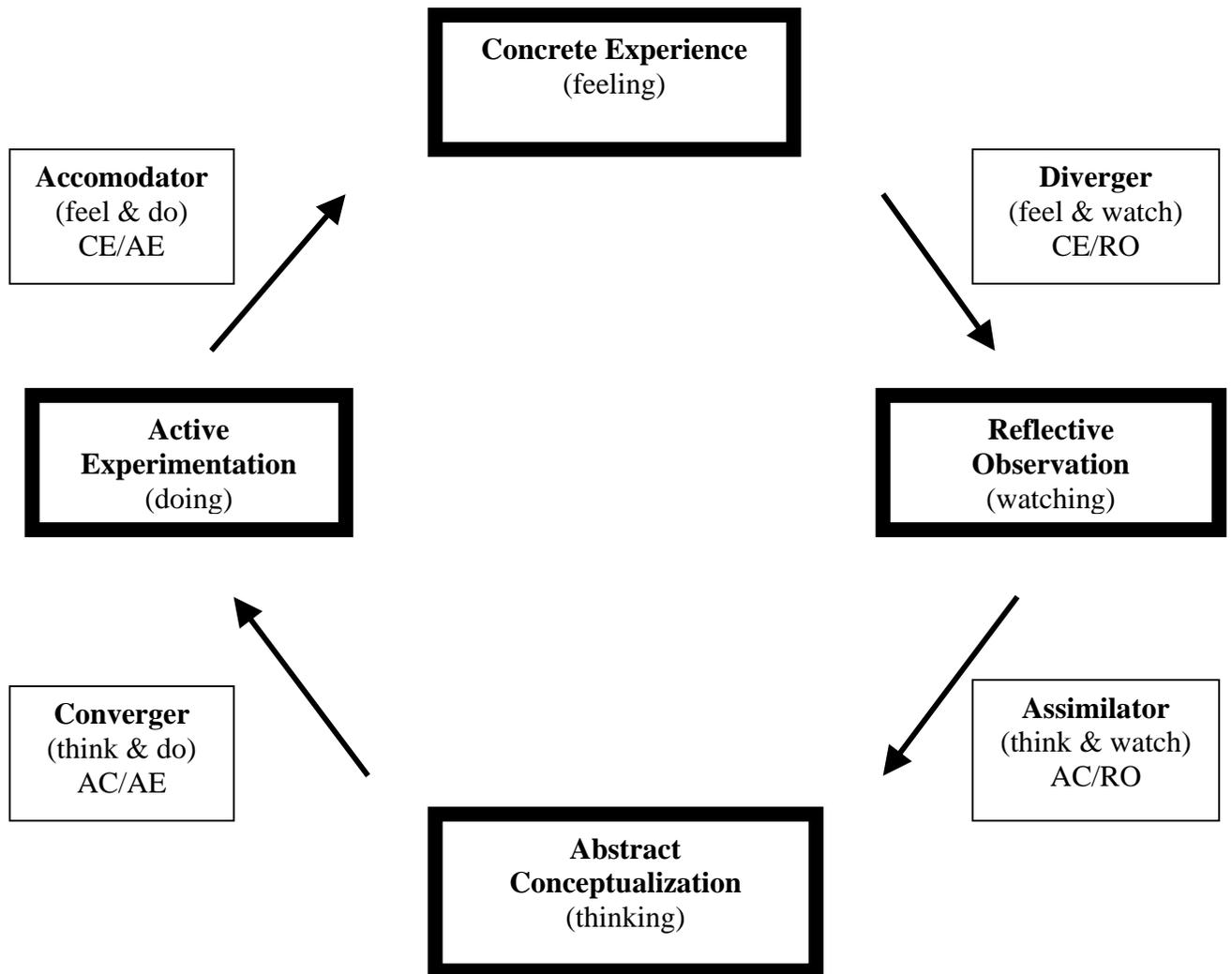
Kolb describes four distinct learning styles embedded in a four-stage learning and training cycle. The model of his learning cycle appeals to many, since it notes the differences in learning preferences while also illustrating a cycle of experiential learning applying to all learners in any training environment.

The four-stage cycle of experiential learning is:

- Concrete experience – CE (feelings, kinesthetic responses)
- Reflective observation – RO (watching, analyzing)
- Abstract conceptualization – AC (critical thinking)
- Active experimentation – AE (doing)
- Kolb asserts different people prefer a single learning style, influenced by various factors in their personal development. The style emerges through a process of child and adult experiences which results in preferences regarding whether we wish to “do” or “watch” and at the same time whether we wish to “think” or “feel.” This results in learning styles that differ re: how we wish to approach a particular task (i.e., the “grasping experience”) and our emotional response to the experience (the “transforming experience”) by either thinking or feeling.

⁵ Kolb, David. (1983). *Experiential Learning: Experience as the source of learning and development*. Indianapolis, IN. FT Press

Kolb's Learning Styles



The four learning styles emerging from the combination of styles along the learning cycle are:

- Diverger (CE/RO) – feel and watch
- Assimilator (AC/RO) – think and watch
- Converger (AC/AE) – think and do
- Accommodator (CE/AE) – feel and do

Our approach to a task or learning experience, for example, would be split through watching others perform and then reflecting on what happens (reflective observation), or, through “jumping in” and doing it (active experimentation).

At the same time, we choose how to transform that experience (emotionally and intellectually) into our own meaning and usefulness by either gaining new information by thinking, analyzing or planning (abstract conceptualization), or, through the concrete, tangible aspects of the world (concrete experience).

The combination of these two choices produces an individual's preferred learning style. In general, the learning styles are:

Divergers are able to look at things from differing perspectives; prefer to watch rather than do, gathering information and using imagination to solve problems and learn. They perform better in instances where ideas are generated and multiple perspectives may be considered, such as brainstorming. They may prefer to work in groups, be imaginative, listen with an open mind and be receptive to feedback

Assimilators prefer a logical, precise approach to learning, focusing on ideas rather than people. They prefer explanations instead of practice; are attracted to logical theories, and prefer reading, lecture, dialogue and having a chance to "think through" concepts.

Convergers solve problems and then use their learning to resolve practical issues. They may prefer technical tasks and be less concerned with people. This style may be attracted to technology competencies, and to experiment with new ideas, simulations and then to apply what is learned to practical situations.

Accomodators are hands-on, relying on intuition rather than logic. They may use the analysis of others to implement a practical approach to problem solving. They will rely on others for knowledge instead of spending time in analysis; they may prefer to work in teams to complete tasks.

For additional information on trainings in adult learning, contact Sierra Training Associates on the web at www.sierra-training.com. You can also contact us to inquire about trainings and workshops centered on adult learning instruction customized to address your specific goals.