LESSON 7: LEARNING MODELS

mobility
motivation
persistence
sociological

INTRODUCTION

Think about your favorite class. Does the teacher lecture? Do you do experiments or go on field trips? Does the teacher show video clips or movies? Do you work in groups? Do you use role-play to act out different scenarios? Chances are, your the teacher is using learning activities that match your learning style and processing preferences.

We can all learn, but we don't all learn in the same way. Where learning is concerned, there is no one approach that fits all people. If instruction is designed and implemented with consideration of different styles of learning, students will be able to increase concentration, as well as process and retain more difficult material.

MODELS OF LEARNING

Models help us to make sense of our world. They provide a framework or structure to help us understand a large or complex concept, and break it down into discrete, manageable units.

Learning models provide teachers with an organized system for creating an appropriate learning environment, and planning instructional activities. Learning models affect what the teacher does, what the student does, the organization of the classroom, the nature of the

procedures, materials, and the instructional tasks.

In this lesson, we will examine two distinct, but complementary learning models: *Dunn & Dunn Learning Styles Model*, and *Kolb's Experiential Learning Model*. Each of these models is based on your individual learning styles and processing preferences. The use of the learning styles model requires teachers to reorganize the instructional environment and instructional activities in order to move from methods that were primarily dominated by lectures to classrooms that facilitate several simultaneous approaches to learning. Both of these models have years of research support behind them, and practical classroom applications to validate them.

NINE FACETS OF BRAIN COMPATIBLE LEARNING

As we discussed in the previous lesson, the learning process is all about how we take in, filter, store, and organize information in our brain. This research on how the brain perceives and processes information leads us to a greater understanding of how we learn and it forms the underlying principles on which learning models were built.

The Nine Facets of Brain Compatible Learning (adapted from *Brain Compatible Learning for the Block*, by Williams and Dunn) are:

1. *Learning becomes relevant through personal context.* Students need to understand how this new information relates to their "real life."

2. *Learning is dependent upon **motivation**.* Students need to be motivated in order to commit the new information to memory.

3. *Learning is reinforced through hands-on experience.* This experience enables the

student to put a concept or theory in context and examine the parts that make up the whole.

4. *Learning requires linking new information to prior knowledge*. The brain has a much greater capacity to take in and store new information that it can relate to something already learned. Teachers need to help students make these connections.

5. *Learning is achieved more efficiently when information is chunked*. By grouping together related information, the brain forms a schema, or concept, and assigns meaning.

6. *Learning is enhanced with time for reflection*. Reflection, or thinking about what was just learned, helps put the new information in long-term memory. Activities such as group discussions, questioning, and writing in a journal all aid in this process.

7. *Learning is retained longer when associated with senses and emotions*. The more senses that are involved in the learning experience, the more stimuli have a chance of reaching long-term memory.

8. *Learning occurs in an environment that fosters and accommodates various ways of being smart*. We all have multiple intelligences that need to be accommodated and strengthened. We will discuss this in depth in the next lesson.

9. *Learning is a high-energy activity*. If not rehearsed, new information will begin to fade after 30 seconds. It is essential that instructors cover new information several times and in a variety of ways.

THE DUNN & DUNN LEARNING STYLES MODEL

Developed by Drs. Rita and Kenneth Dunn, this model emphasizes the organization of the classroom and the use of a variety of instructional activities and procedures. Based on the premise that, for a student to have the best opportunity to learn, the instructional techniques must match each student's individual learning style. This model does not address the curriculum content or instructional goals and objectives.

The Dunn & Dunn model involves two main activities: 1) identifying the individual learning style. 2) planning and implementing learning activities that accommodate the student's individual learning style strengths. In this model, the learning style is defined as the preference for or aversion to variables within five identified groups of stimuli. The diagram below graphically depicts the Dunn & Dunn model.
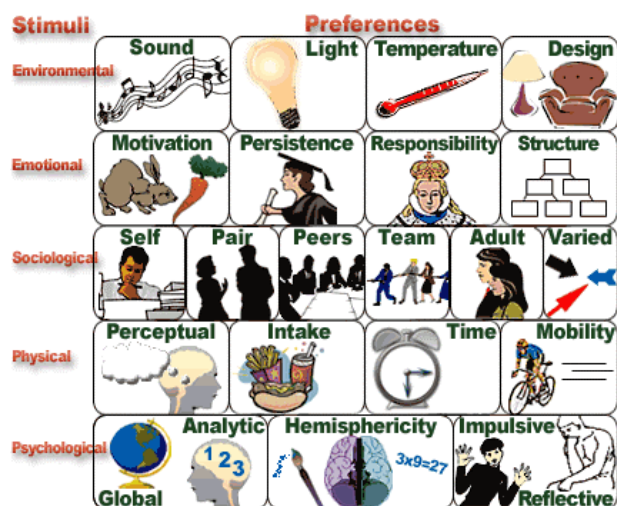
The five stimuli groups or dimensions encompass environmental, emotional, **sociological**, physiological, and psychological areas. The stimuli deal with how the learners perceive, interact, and respond within the learning environment. Within these groups are 21 variable, or elements for which a learner may have a preference.

ENVIRONMENTAL PREFERENCES

- Sound — Do you like background music, or do you prefer quiet while studying?

- Light — Do you prefer dim or bright light while studying or concentrating?

- Temperature — Do you prefer the room temperature to be cool or warm while engaged in learning activities?

- Design — This refers to the furniture arrangement that the student prefers. Do you normally sit at a desk (formal) or do you prefer the couch, bed, floor, pillows, etc. (informal)?

EMOTIONAL PREFERENCES

- Motivation — Are you self-motivated to learn? Or are you primarily motivated by adult feedback and reinforcement?

- **Persistence** — This relates to the learner's attention span and ability to stay on task. Do you prefer to work on one task or do you like to work on a variety of tasks simultaneously?

- Responsibility — Do you prefer to work independently with little supervision? Or do you prefer to have frequent feedback and guidance?

- Structure — Do you like step-by-step instructions, or do you prefer to be given an objective and left alone to decide how to complete the task?

SOCIOLOGICAL PREFERENCES

- Self — Do you prefer working on a task by yourself?

- Pair — Do you prefer working on a task with one other person?

- Peers and Teams — Do you like working as a member of a team?

- Adult — Do you like to work with an adult or teacher?

- Varied — Do you like routines or patterns or do you prefer a variety of procedures and activities?

PHYSICAL PREFERENCES

- Perceptual — Are you a visual, auditory, or kinesthetic/tactile learner? (see Lesson 6 for a detailed explanation).

- Intake — Do you prefer to drink, eat, or chew gum while studying?

- Time — This refers to the time of the day when you have the most energy. Are you an early bird or a night owl? Somewhere in between?

- **Mobility** — Can you sit still, or do you prefer to be moving while involved in a learning task?

PSYCHOLOGICAL PREFERENCES

- Global/Analytic — Are you a "big picture" person, or are you more detailed oriented?

- Hemispheric — Do you have left brain tendencies (sequential learners) or right brain tendencies (simultaneous learners)? This overlaps with the global/analytic preferences.

- Impulsive/Reflective — Do you tend to make decisions quickly or do you take time to consider all the options?

HOW DOES LEARNING STYLE AFFECT INSTRUCTION?

Once you have an understanding of the preferences that affect your learning, how does that understanding translate in the classroom? As we said at the beginning of this lesson, the models will influence what the teacher does, what the student does, what the classroom looks like, and the materials and learning activities you use.

TEACHER'S ROLE

The teacher's primary role in both of these models is that of facilitator and leader. Of course, the first the responsibility of the teacher is to identify the student's learning styles. The most effective method is an instrument called a Learning Style Inventory (LSI), which is a self-evaluation that the students complete.

Next, the teacher must arrange the physical classroom to accommodate the different learning styles. Some students might prefer an informal setting, while others might perform better in a more traditional desk and chair.

Finally, the most difficult, and time-consuming responsibility of the teacher is to plan and develop a variety of alternate learning activities that will accommodate the different learning styles of the students (role plays, instructional games, reading, individual assignments, group discussions, writing in a journal, etc.).

STUDENT'S ROLE

Each student is responsible for developing an understanding of his or her learning preferences and using that understanding to enhance his or her own learning experience. Armed with the knowledge of how they learn, students should be able to select appropriate activities so that they will be able to learn more quickly, and retain the new information. Studying should be much more productive.

KOLB'S EXPERIENTIAL LEARNING MODEL

Like the Dunn & Dunn model, Kolb's model of experiential learning recognizes the need to address individual differences in learners. Each advocated that in order to be effective, instruction must be modified to accommodate a variety of learners and learning styles.

The Kolb model is a holistic approach to learning that deals primarily with processing preferences — the process by which information is obtained, stored, sorted, and utilized. It defines a four step learning process and then goes on to describe the four learning styles (preferences) used within the process.

The learning cycle is a series of experiences, and each stage of the cycle is associated with a distinct learning style. You can enter the cycle at any of the four processes. The diagram below illustrates the Experiential Learning Model.

Kolb's Experiential Learning Model
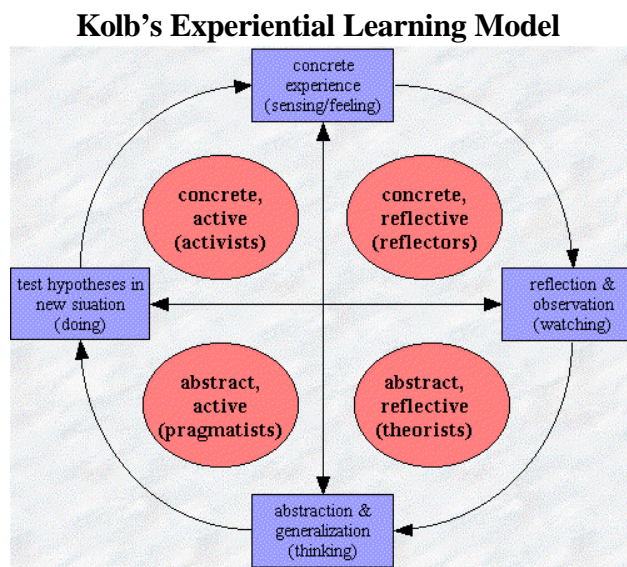
- *Concrete Experience* occurs when the learner is actively experiencing an activity (e.g. science lab, field class).

- *Reflective Observation* occurs when the learner is consciously reflecting back on that experience.

- *Abstract Conceptualization* happens when the learner is being presented with or trying to conceptualize a theory or model of what is (or is to be) observed

- *Active experimentation* happens when the learner is trying to plan how to test a model, or theory or plan for a forthcoming experience.

The four quadrants within the learning cycle represent the four personal learning styles. Because each is based on two dimensions, it is somewhat more complex than the Dunn & Dunn model. According to Kolb's model, the four learning styles include the Theorists, Pragmatists, Activists, and Reflectors.

Theorists (or Assimilator) like to learn using *abstract conceptualization and reflective observation* (lecture, papers, analogies) and like to ask such questions as "How does this relate to that?"

The instructional approach for theorists includes using case studies, readings, and thinking alone. Theorists' strengths lie in their ability to create theoretical models. They are often more global thinkers and are concerned with abstract concepts.

Pragmatists (or Converger) like to learn using *abstract conceptualization* and *active experimentation* (laboratories, field work, observations). They ask "How can I apply this in practice?"

The instructional approach that works best with pragmatists includes peer feedback and activities that apply skills. They prefer to be self-directed, autonomous learners.

Activists (or Accommodator) like to learn using *concrete experience* and *active experimentation* (simulations, case study, homework). They tell themselves "I'm game for anything."

The instructional approach for activists include practicing the skill, problem solving, small group discussions, and peer feedback. They tend to solve problems intuitively, relying on others for information.

Reflectors (or Diverger) like to learn using *reflective observation* and *concrete experience* (logs, journals, brainstorming). They like time to think about the subject.

The best instructional approach to use with reflectors is lectures with plenty of reflection time. Their strengths lie in an imaginative ability.

Our learning comes from all four quadrants, but we have one that is our favorite. The ideal learning environment should include each of the four processes, and the learning activities should be flexible so that the learner can spend additional time on his or her preferred learning style.

The following is an example of teaching someone how to ride a bike using the Kolb Experiential Learning Model.

Learning to ride a bicycle:

- *Reflectors* — Thinking about riding and watching another person ride a bike
- *Theorists* — Understanding the theory and having a clear grasp of the biking concept.
- *Pragmatists* — Receiving practical tips and techniques from a biking expert
- *Activists* — Leaping on the bike and trying to ride it

CONCLUSION

Learning models facilitate the process of linking instructional activities to individual learning styles, thereby increasing the learner's ability to acquire and retain knowledge.