Chapter 3

ADULT LEARNING THEORY: IT MATTERS

James G. Clawson

Every act of conscious learning requires the willingness to suffer an injury to one's self-esteem. That is why young children, before they are aware of their own self-importance, learn so easily.

—Thomas Szasz

Nothing ever becomes real till it is experienced.

—John Keats

If teaching is about helping others learn, then we as teachers ought to understand the learning process of adults—people who, like us, have spent many years in schools, many years in society, and in some cases, many years working in business.

Adults don't learn like children. Adults are more discerning in what they are willing to learn, more questioning, and more resentful of being told what to learn. They need to see more clearly how what they are being asked to learn will benefit them; for adults, learning is much more utilitarian than it is for children.

Whether for children or adults, learning theories abound. We could consider the theories of Thorndike, Pavlov, Guthrie, Tolman, Hull, Skinner, the Gestalt theorists, Piaget, Freud, Knox, Knowles, Kolb, Bruner, and others. An exhaustive treatment of them, however, would consume this book and more. A variety of good books summarizes these theories; references for some of them are given at the end of this chapter. What we want to do here is to outline the chief characteristics of some practical models of adult learning that can provide a basis for discussion and inform your preparations for teaching.

Malcolm S. Knowles

Malcolm Knowles has been a pioneer in the field of adult learning and is a strong proponent of the position that adults do not learn like children. In several works (including

The Adult Learner), he presents a series of assumptions, patterned after the work of Eduard Lindeman, that guide his view of adult learning:

1. Adults are motivated to learn from being in situations in which they see a need to learn. Consequently, adult learning settings should begin with topics that address the adult audience's current learning needs.

2. Adults are oriented to the broad range of affairs in life, not to narrow subjects. Thus, adult teaching should be multidisciplinary rather than subject-oriented.

3. Adults learn from their experience. Therefore, the most productive adult learning comes from the analysis of adult experience.

4. Adults have a deep need to be self-directing. Therefore, teaching adults should be involved in setting the agenda for their learning.

5. Individual differences broaden and harden with age. Therefore, adult teaching should make allowance for differences in style, time, place, pace, focus, and method.

Knowles has been very active in propounding this set of principles for teaching adults and even refers to them by a distinctive name, andragogy, by which he intends to separate the principles from those used in pedagogy, the teaching of children. Knowles argues that the andragogical principles are quite different from what happens in most of our school systems where the model is that the instructor knows best what is to be taught and learned and where students are expected to learn the same things in the same ways. Clearly, children in elementary schools don't have the experience to draw from to set their own learning agendas. Somewhere before college graduation, however, they do develop interests and preferences that beg for an andragogical approach. Yet most university courses continue to run on the pedagogical model: instructors as disseminators of knowledge and students as empty pots to be filled. Knowles's andragogical message is that effective adult teaching begins with where the students are. Adults will learn faster if what they are studying has an immediate effect on their current situation in life. That is not to say that the instructor cannot alter the students' intellectual whereabouts by adding new information to them, only that the adding will be more effective if it builds on the foundation of interests and understanding already in place.

David Kolb

David Kolb comes at the question of adult learning in a different way. Kolb's theory is that all people learn in the characteristic four- step pattern as shown in Figure 3-1. First, a person has an experience. Then, he or she reflects on that experience, analyzing it and trying to make sense of it before attempting to fit the experience into a broader conceptual framework of the world. This latter involves fitting the sense of the experience into an individual's collection of theories about how the world operates. Once he or she has done that—in effect, formed a hypothesis about how things work—the person tries it out, and this experimentation, in turn, leads to another experience from which he or she can retreat and reflect. Kolb's notion is that this four-step cycle goes on in our lives many times a day and that reinforcing cycles add to larger structures of beliefs or hypotheses that we carry with us throughout our lives.

Kolb also notes that, over time, people begin to favor some of the steps more than others. Some people, for instance, might become more comfortable with experimenting with things (Active Experimentation), while others become more comfortable conceptualizing how an experience might fit into a bigger view of how things in life work (Reflective Observation). Thus, people develop characteristic learning styles or patterns, which Kolb reasoned can be measured.

Insert Figure 3-1 about here.
Kolb's Learning Cycle

Indeed, Kolb developed a learning style instrument (marketed through the Hay Group) that attempts this measurement. The articles in the scholarly literature indicate mixed results on the validity and accuracy of this instrument, but the theory has a certain face validity, and the instrument is easy to use, which makes the package attractive to those interested in exploring learning styles.

This instrument, the Learning Style Inventory, produces scores for each of the four steps in Kolb's theory. Those scores can then be combined to produce a single point on the grid shown in Figure 3-2. Kolb sets the Concrete Experience and Abstract Conceptualization steps and the Reflective Observation and Active Experimentation steps at opposite ends of independent continua. After calculating the differences in the scores on each continuum, an instructor then plots a single point to get an overall categorization of the student's learning style. Kolb then offers descriptions of the characteristic ways that each of the four basic types (Accommodator, Diverger, Converger, and Assimilator) approach learning. He also gives examples of people in various occupations who seem to rely on one of the styles more than the others. To avoid biasing your view if you plan to use

the instrument, we won't explain more about the instrument but rather encourage you to try it.

Insert Figure 3-2 about here.
Kolb's Four Learning Styles

Akin/Pearl/Clawson Model

Gib Akin conducted a study of managers and the way they learn. Akin's qualitative interviews of 60 managers indicated that managers used six learning themes: mentoring, role-taking, practical accomplishment, validating, anticipatory, and personal growth. Individual managers, Akin reported, used distinctive thematic approaches to learning situations and tended to rely on those distinctive approaches.

In Akin's view, learning themes are action-oriented rather than cognitive or analytic. Themes refer to what people actually do when they are confronted with a learning situation rather than what they say they might do or how they might reflect on learning. In this sense, you can think of a learning theme as analogous to landing an airplane at a large, multirunway airport. The pilot, the learner in our analogy, approaches the airport, the learning situation, and circles. Considering wind, other planes, and other factors, our learning pilot has the freedom to choose how he or she will approach this airport. Left alone to choose, each pilot will select an orientation and approach to the airport that suits him or her best, one that he or she is comfortable with, have used before, and is confident will lead to efficient and effective results. Being allowed to approach the subject matter (airport) from his or her preferred approach, the pilot is able to make a smooth, comfortable landing (grasping the material). If forced, however, because of teaching style, materials, setting, or program culture to approach the airport from another perspective, the pilot may indeed make it down, but may experience a bumpy, perhaps jarring, landing. In that analogy, there is no "right" way to land—or to learn. Rather, people have preferred styles and, if permitted, will utilize those styles when entering into a learning situation.

Gail Pearl and I undertook the task of reviewing Akin's work and attempting to replicate it. In an attempt to corroborate the existence of the seven learning styles and to measure them, she interviewed MBA students, developed an instrument, checked her preliminary results with expert raters, and administered three waves of questionnaires to MBA candidates at the Darden Graduate School of Business Administration. In the course of that work, we concluded that managers (as approximated by MBA students with years

of experience in industry) do indeed have distinctive learning styles, but that Akin's seven-category model was broader and less consistent than the data we observed. Consequently, we winnowed the categories down to five: social, role-taking, practical accomplishment, anticipatory, and scientific.

Social. Some people like to learn from other people; they would rather ask someone how to do something than look it up in a book or simply start trying to do it. Such a social-oriented learning theme may grow into a full-fledged mentor-protégé relationship, but more often it is simply peers working together to learn the ropes of new jobs or assignments. Hence, Pearl and I have retreated from the mentoring terminology that Akin used and dubbed this learning theme or pattern "social." People with a social learning theme typically describe how they tried to find a person who knew something about the learning target, how they would ask several people what they knew about a subject, how they would confer with others about a new area, and how they found that approach both rewarding and efficient. For social learners, acquiring new knowledge and skills means talking with and working with other people. For them, the key question is *Who knows about this stuff, and how can I work with them or pick their brains?*

Role-taking. Role takers have a mental image of what a person who has a certain title does. Whether accurate or inaccurate, they view the world as a series of caps and gowns people don as they assume new assignments, jobs, and careers. The more a role-taker can learn about what that cap and gown signify, the better prepared that person will be to put the garb on, wear it, and become that role. Consequently, when confronted with a promotion, role takers will attempt to clarify the expectations that they have, that society has, and that the organization has for people who fill that role; they then try to live up to and fit into that definition, that set of expectations. In that way, learning for role-takers is much less personalized—fitting the learning to the self—and much less social than it is for the social learner. Role takers want to fit themselves into the role rather than the other way around. Role takers want to learn from broad, abstract expectations rather than from another person's perspectives.

For role-takers, the key questions are *What do people in this position (managers, section heads, executives, etc.) do? What do people expect of them? How can I look like one? How can I behave like one? How can I perform like one?* If their view of the demands placed on a certain role is sufficiently flexible and adaptive, their learning can be effective and efficient. If their view is distorted or inaccurate, however, role takers, trying to do what it is they think they *should* do in order to fill the role, may appear to others to be playing a game, acting out the job, putting on airs, or otherwise behaving insincerely.

Practical. Practical learners emphasize Kolb's Concrete Experience step. They are risk takers who have high confidence in their ability to figure things out for themselves. They seldom wait for guidance and they seldom trust or place much value in socially defined ways of doing things. They want to find their own way, to discover for themselves the connections that exist, and they believe they can best do this by diving in, trying things out, discarding whatever doesn't work, and trying a new way until the problem, learning issue, or situation is resolved.

Practical learners tend to be impatient, in a hurry, and intolerant of those who wish to slow down and sort through things more carefully. Receiving a box from UPS, the practical learner will open it eagerly, discard the instructions, lay out the pieces, and begin assembling them. Consequently, practical learners often find themselves in the middle of situations with something of a mess and may not be sure how to get out of it. They tend to have positive attitudes, though, and will optimistically, if with a bit of frustration, disassemble their work and try again until it comes together. Then with great pride and, indeed, a deep insight into how the "target" actually functions, they add this experience to their base of knowledge.

It's easiest to picture practical learners in situations with tangible things such as machinery and hardware, but they often take the same approach in social settings as managers, companions, and team members. Practical learners are more inductive in their learning style: They want to generate their own results and rely on them rather than build on what others have thought or written. For the practical learner, the key question is *What are we waiting for? Let's get to it!* and later, *Hmmm. That didn't work. What else can we try?*

Anticipatory. Anticipatory learners don't like surprises. They like to know what is going to happen before it happens and they tend to postpone action in favor of careful understanding of a situation. Anticipatory learners are, therefore, often at odds with practical learners, but if the two can work together, they can complement each other's styles. Anticipatory learners take a measured pace and are careful and thorough. They like to lay out the instructions, consult manuals, read additional books and materials on a subject, and reach a conclusion about how to go about things before actually beginning them. They like to have a map, an overview, a plan of what's going to happen and how it's going to happen. They tend to be deductive thinkers, in that they search for the framework or formula that (they assume) has already been established and then, when they are confident that they understand what will happen, apply it to the learning situation. For the anticipatory learner, the key questions are *What books are there on this subject? Where are the manuals? Do we understand the instructions thoroughly? Do we know what will happen if we do this or that?*

Scientific. Scientific learners closely follow the model taught in elementary science courses: They become enamored of a question (of practical need or not), formulate a

hypothesis about how things might work, try it out in a controlled, experimental way, and then reflect carefully on the results to see how the experience can be incorporated into a broader conceptual view of the world. In Kolb's terms, these people would be balanced learners, those whose Learning Style Inventory profiles are relatively even, without heavy emphasis on any particular style. Scientific learners are neither fast nor slow, social nor asocial. Rather, they are searching for verifiable principles that can be applied again and again. They collect data, draw inferences, experiment, and review results. For the scientific learner, the key questions are *What do the data show? What conclusions can we reach from the data?*

Those five categories leave out Akin's *Validating* and *Personal Growth* groupings. In the former, Akin said that people would learn something in one way or another and, encountering it again in a learning setting, muse, *Oh yes, I knew that. So,* that's *what I've been doing*. Here, learning has already occurred, in the sense of being functionally available to the individual, but the individual just doesn't know what to call it. In this light, validating learning can be viewed as awareness of learning rather than the learning itself. In amending Akin's model, we were more interested in how the "validating" or any other kind of learner learned what he or she knew in the first place.

The Personal Growth category for Akin comprised individuals who spend their time and energy on personal habits and characteristics. These people subscribe to personal health journals, buy self-help books, and focus their growth on improving their physical or intellectual selves. For Pearl and me, this delineation was more about *what* was learned rather than *how* it was learned. We thought that the learning themes should outline just how a person learns and not become confused with the object of that learning. A person can choose to learn about self, business, management, assembling furniture, or whatever, but it was the learning process itself that we wanted to examine.

Neither Akin nor Pearl and I believed that an individual uses one learning theme to the exclusion of others. We reasoned that people probably use each of the themes to one degree or another, but that individuals have a preferred mode, a style that fits and feels right. When circumstances allow, we choose that style and apply it to the learning situation at hand. The learning style measure that Pearl and I developed demonstrated that, indeed, individuals had scores on all dimensions but tended to have dominant styles.

Learning Contingencies. In the course of our investigation, though, Pearl and I encountered a confounding factor relating to the question, "Do people use the same learning theme when they approach fundamentally different kinds of learning situations?" We tested this question, and the answer seems to be no. When confronted with learning about organizational networks and managerial role demands, people tended to use social

means. When those same people encountered the task of learning about a new computer program or about how to install a new computer system out of the box, they tended to use anticipatory techniques. We concluded that the style or theme applied to a situation was a function of, at least, the preferences of the individual *and* the characteristics of the learning target. We might go on to surmise that, in formal learning settings like classrooms, the learning style applied is also affected by the mode of instruction and the demands of the instructor.

Myers-Briggs Type Indicator

The Myers-Briggs Type Indicator (MBTI) is an instrument a mother-and-daughter team developed over a period of 40 years. Their interest originated in a desire to understand the daughter's husband and his (what was to them) unusual behavior. Carl Jung's publication of *Psychological Types* in 1921 fueled that interest, and over the years, they developed and refined an instrument that is widely used in industry and psychological counseling today. The MBTI yields scores on four dimensions that combine to form 16 basic psychological types. Some of those dimensions relate to learning style and are relevant to our discussion here.

The first Jungian dimension is Extraversion/Introversion. In the MBTI, these terms are not used exactly as they are in lay English. Rather, they pertain to the tendency of individuals to be oriented to the outside world or to the inside world, especially as the individuals process information. Extraverts (Es) in the MBTI view are those who draw energy from a crowd and are invigorated by discussion. They would probably be social learners in Akin's scheme. Extraverts also process information socially. They like to talk about things with others.

Introverts (Is), on the other hand, process information internally. They do not like to deal with data in a social setting, but will retreat inwardly to consider quietly and personally the meaning of what they have encountered. To them, silence is nothing to be avoided; it may, in fact, indicate considerable effort and work being done by the introvert as he or she processes what is going on.

Sometimes in teaching, you will be faced with a very quiet group. Students may tend not to discuss among themselves; they may indulge in lengthy pauses before answering questions; and they may seem distant. That silence may be very disconcerting to you. You might wonder whether or not the class is following the instruction, whether you have said something either too stupid or too erudite to stimulate the group, or if, as has happened on occasion, you have brought the wrong material into the wrong room at the

wrong time. The real reason may be none of these; you may simply have a class with a lot of Introverts in it.

How you deal with classroom silence can make a big difference in your effectiveness as a teacher. I've seen situations where an instructor was so distraught over the silence of the class that he stopped and asked them what was wrong and whether he had offended them. The class was utterly surprised and sidetracked by the intervention. They wondered what was going on, began worrying about their relationship with the instructor, and lost touch with the subject matter of the class. All because there was more silence in the room than the instructor (probably an Extravert) was used to. In most teaching settings, you will have both Extraverts and Introverts in class. If a group happens to be more commonly introverted, that kind of silence may simply mean that people are thinking and working hard on the topics you have introduced.

Assessing the degree of Extraversion/Introversion in your students and in yourself provides clear benefits. For Es, the pull is toward the conferences, the classroom settings, the committee meetings, and the social aspects of the learning industry. For the Is, the attraction lies in the quiet meditative office hours, the stimulating research to be pursued in solitude, and the opportunity to think alone. Ask yourself which one you are and how that might affect your teaching style and your ability to relate to and communicate with your students.

A second MBTI dimension that relates to learning is the Perceptive/Judging scale. Perceivers (Ps) are open to outside information; they will delay making decisions in hopes that late-breaking news may help them make a better decision. The humorous conception of Ps relates to a family of Ps who went on vacation. They loaded up water skis, snow skis, beach equipment and climbing gear, and headed out. Only when they reached the outskirts of town and pulled onto the freeway, did they begin to ask each other which way they wanted to go! They were prepared for any result but just weren't concerned about destination until they were on their way.

In contrast, Judgers (Js) have clear ideas about what they like and don't like and tend to impose their preferences on all situations. Js find it more difficult to accept new information and incorporate it into their view of the world. Thus, in the classroom, while Ps tend to be more receptive to new information but perhaps less able to act on it, Js may be more resistant to restructuring the way they already think about things. But once Js "get it," they apply it consistently and well.

The third learning-related MBTI dimension is Sensing/Intuitive. Sensing (S) types tend to be skeptical of ideas or information that do not come to them through their five

senses. They like to be able to see things, to touch things, to feel the reality of things. In Kolb's language, Sensing types would rely more on concrete experience than Intuitives (INs), who respond to ideas and abstractions. INs like to see the whole and then to expand it. They daydream, imagine, create, and innovate. They are willing to act on hunches or impulses and trust their feelings much more than Sensing types. Ss like to have things laid out in logical order, in sequence, one after the other. Intuitives like to see the big picture, to ingest it all at once, to see the connections among the parts of the whole. Obviously, the way you explain things in class determines the extent to which you reach one type or bypass another.

The MBTI is an easily administered instrument that can be scored quickly. The interpretation of the scores can take hours or days, however, depending on the skill of the interpreter and willingness of the group to pursue the nuances of the data. Although I don't advocate that you give this instrument to every person in your classes, I have found that understanding it and your own profile can help you communicate more clearly with others and help them be comfortable with their learning style. It will also help you be more tolerant of other people's learning styles and of institutional biases for one style or another. I do encourage you to take this instrument, receive some guidance in its interpretation, and reflect on how your type can influence your effectiveness in the classroom.

Neurolinguistic Programming

John Grinder and Richard Bandler are generally credited with establishing a line of study called neurolinguistic programming (NLP). Although this chapter won't pursue all the characteristics of NLP, it will outline some aspects of NLP that are useful when thinking about adult learning. NLP posits that over their lifetimes people develop physiological highways in their nervous systems. When we receive sensory data and respond, we use a neuromuscular-linguistic link or pathway. The more we use that particular pathway, the more that pathway becomes familiar, comfortable, and a preferred way of sending signals from one part of the body to another.

The analogy often used is that our nervous system, especially the brain, is like a tub of firm gelatin. When a hot rock, a neurological electrical impulse, is added to the system through our five senses and moves from one place to another, it burns a pathway into our system. It is easier for subsequent impulses or signals to follow the same pathway rather than forge a new one. After repeated use, the pathway becomes the neurological equivalent of a freeway with thousands and thousands of impulses passing over the same pathways rather than less used, less familiar alternatives. Recent research on the brain seems to confirm that general model.

Since the process begins with sensory input, it produces, according to NLP, three basic information-processing styles in people: visual, audio, and kinesthetic, based on sight, hearing, and touch, respectively. The idea is that some people prefer to receive and process information through their eyes and are thus typed as "visuals." Others prefer to hear things ("auditories"), while some prefer to get data by touch and feeling ("kinesthetics"). NLP goes further and argues that people will reflect their preferred information gathering and processing styles in their speech (hence the link to "linguistic"). Visuals, for instance, will often use phrases like, "Don't you see?" or "I see what you mean" or "Let me show you what I mean." Auditorys will use language like "I hear you" or "Do you hear what I'm saying?" or "Let me explain it to you." Kinesthetics will say things like "That feels right to me" or "I need to get in touch with so-and-so." or "I can't quite grasp what you're talking about."

One obvious connection between this theory and teaching is the importance of providing information through communication channels that will be familiar to and accepted by receivers. In teaching, major course ideas that are not presented visually, audially, and kinesthetically will be missed by some and ill-understood by others. NLP strongly suggests that instructors provide for visual, audio, and kinesthetic examples for all major concepts being taught.

Conclusion

People learn in different ways. They may have some adaptability in their learning styles, but we seem to prefer certain ways of approaching and working through learning situations. We receive and process information in different ways. We think and decide in different ways. The more sensitive you are to the variations in your students' cognitive styles and to your own cognitive, learning, and teaching styles, the more effective your teaching will be.

Beware, also, of the danger of "overteaching." Michael Polanyi in his book, *Personal Knowledge*, introduced the concept of logical "unspecifiability," the idea that there are processes in the world that become more impossible to do the more one tries to analyze and understand them. Hammering a nail and riding a bicycle are good examples. If you tried to teach hammering or riding a bike with the laws of physics—describing the force vectors (with their power and direction) and their relationships to centrifugal forces and gravity, and introduced the mathematical equations to describe these processes along with techniques of measuring them to the novice, then the behavioral tasks of actually hammering or bike riding would become more difficult, even impossible, to do. The same is true of the golf swing. At some point, you must just do it, and from the doing, learn.

The same danger also exists in your learning about teaching. This book is intended to help you see aspects of the teaching/learning relationship that you may not have examined before. But if it causes you to freeze up in the classroom because you are trying to remember all of the principles and guidelines, then it serves no good purpose. On the other hand, we can no longer assume that teaching will teach us to teach effectively. The middle ground, which comprises ongoing learning about teaching and continued development of practical and artful skills of teaching, is the balance we want to strike. As usual, the solution lies not in either/or answers, but in the both/and answers. When you enter the classroom, as when you begin a golf swing, you must let your previous training, preparation, and skill development take over and let it happen. If you try to control excessively either your teaching or the golf swing, your results will be jerky and less effective.

Further Reading

Comment [l1]: Should we delete this "Further Reading" section and replace it with the one that appears below? I will make note of this question in my email to Jim and Mark.

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