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Bill Brandon, et. al,
Computer Trainer's Personal
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Chapter 3

Adult Learning: What Do We Know for Sure?

by Ron & Susan Zemke

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However you care to define it, learning is as natural to human beings as breathing, eating, sleeping, playing, or procreating. And as far as anyone can tell, we maintain that natural capacity as long as any of the others. For the last century and a half or so, educators and psychologists have tried to develop ways to deliver instruction, practice, and experience that enhance this innate capacity to learn.

For the last 20 to 75 years, depending on who's doing the counting, an evolving school of thought has defined adult learners (as opposed to children, adolescents, college sophomores, and lab rats) as a unique subgroup in need of specialized study, theory, and educational practices.

Adult-learning theory emerged from the academic backwaters in 1973 with the publication of Malcolm Knowles' highly readable book, *The Adult Learner: A Neglected Species*. Knowles, then a Boston University professor, scored an instant hit with adult educators and trainers. In *The*

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Adult Learner, he dusted off the word *andragogy*, a term popular in German education circles in the early 1800s, and used it to label his attempt to create a unified theory of adult learning. Knowles' contentions were based on four assumptions:

- As they mature, adults tend to prefer self-direction.
- Adults' experiences are a rich resource for learning. Adults learn more effectively through experiential techniques such as discussion or problem-solving than they do through, say, passive listening.
- Adults are aware of specific learning needs generated by real-life events such as marriage, divorce, taking a new job, losing a job, and so on.
- Adults are *competency-based learners*, meaning that they want to learn a skill or acquire knowledge that they can apply pragmatically to their immediate circumstances.

The concept of andragogy generated a flurry of debate and study. Today, andragogy is considered something less than the all-encompassing explanation of adult learning Knowles had hoped it would be. Knowles himself later acknowledged that pedagogy and andragogy probably represent the ends of a spectrum that ranges from teacher-directed to student-directed learning. Both approaches, he and others now suggest, are appropriate with children *and* adults, depending on the situation.

Sharan B. Merriam, a professor of adult education at the University of Georgia, summarizes the current state of adult-learning theory this way:

It is doubtful that a phenomenon as complex as adult learning will ever be explained by a single theory, model, or set of principles. Instead, we have a case of the proverbial elephant being described differently depending on who is talking and on which part of the animal is examined. In the first half of this century, psychologists took the lead in explaining learning behavior; from the 1960s onward, adult educators began formulating their own ideas about adult learning and, in particular, about how it might differ from learning in childhood. Both of these approaches are still operative. Where we are headed, it seems, is toward a multifaceted understanding of adult learning, reflecting the inherent richness and complexity of the phenomenon.

Fourteen years ago, in the June 1981 issue of *TRAINING*, we published a review of adult-learning theory and research entitled, "20 Things We Know for Sure about Adult Learning." We recently revisited the information pile from which we culled that article. We then added more than 300 new references to the stack and asked ourselves, "Has anything changed?"

As far as solid, reliable information goes, most of what the literature has to tell us today is what it told us then. But although we haven't seen the equivalent of the dramatic changes wrought by Knowles and the andragogy movement in the early 1970s, some important differences in nuance and understanding have occurred that add to our knowledge of the training craft.

As in our previous synthesis, we have divided what we garnered from our scan into three basic categories:

1. Things we know about adult learners and their motivation.
2. Things we know about designing curricula for adults.
3. Things we know about working with adults in the classroom.

The same caution applies now as did then: These categories are neither definitive nor exclusive. They overlap more than a little. But they help us understand the implications that current theory and research hold for our day-to-day work in training and development.

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Motivation To Learn

Adults can be ordered into a classroom and prodded into seats, but they can't be forced to learn. On the other hand, adults who see a need or have a desire to know something new are quite resourceful. Witness the legions of gainfully employed people enrolled in continuing education programs at community colleges, vo-techs, and universities around the world, not to mention the success of proprietary self-development seminars, sports-skills camps, and independent study groups in virtually every industrial and postindustrial country.

When the conditions are right, adults seek out and demand learning experiences. Much of what we know about adult motivation to learn describes those conditions and comes from the work of Allen Tough, Carol Aslanian, Henry Brickell, and others engaged in the study of self-directed learning. The key to using adults' "natural" motivation to learn is tapping into their most *teachable moments*: those points in their lives at which they believe they need to learn something new or different.

For example, several longitudinal studies in corporations have demonstrated that newly promoted supervisors and managers should be trained as quickly as possible. The longer such training is delayed, the less impact it appears to have on job performance.

In short, there is a window of opportunity during which adults are most receptive to learning—and a time after which they cannot be enticed with a chateaubriand or a baseball bat.

The idea of a window of opportunity applies not only to people's motivation to learn, but also to their ability to retain what they *do* learn. If trainees begin to acquire a new skill but then have no opportunity to practice it, the skill quickly fades. Information-technology trainers have been reporting that training on a new software package or upgraded hardware configuration loses its effectiveness unless the equipment or software is installed and ready to use. The longer the group has to wait for the new system, the less impact the training has on effective use. This is a reconfirmation of an old lesson: Use it or lose it.

Adult Learning Is Problem Centered

People do learn for the sake of learning: Hobbyists go to model-train conventions and take archery classes, retirees take golf and tennis lessons, and lots of people join book clubs. None of that is job-related or "problem"-related. But more often than not, adults seek out learning experiences to cope with life-changing events. Marriage, divorce, a new job, a promotion, being fired, retirement, death of a loved one—these sorts of occurrences often create a perceived need to learn.

The more life-changing events adults face, the more likely they are to seek out related learning experiences. In fact, learning may be a coping response to significant life changes for many people: some knit, some drink, some go to school. People who are highly educated are more likely to seek out learning opportunities as opposed to other coping options.

The impulse to go learn something in response to a life-changing event is to some extent generic: The subject the person suddenly desires to learn about won't always pertain directly to the change that sparked the desire. Witness the divorcee who signs up for a course in art history. Predictably, however, adults usually seek out and respond best to learning experiences they perceive as directly addressing the changes that face them. If a change is primarily work-related, a learner will be more motivated if the learning event is primarily work-related.

Adults are generally willing to engage in learning experiences before, after, or even during the life-changing event. Once convinced that the change is a certainty, they will engage in any learning that promises to help them through the transition, including seminars on coping with change.

Adult Learners Are Motivated by Appeals to Personal Growth or Gain

Although immediate utility is most often the motivation behind adults' learning efforts, it's not the only motivation. For instance, some evidence

suggests that adults more readily engage in job-skills training if they see it as relevant to the rest of their lives as well. Adult learners also can be motivated by the promise of increasing or maintaining their sense of self-esteem or pleasure. Developing a new skill or expanding current knowledge can do both, depending on the individual's perceptions.

A newer subfield of adult learning, sometimes referred to as *feminist pedagogy*, suggests that emancipation from domination is a strong motivator. Although most of the research in this area is related to feminist issues, the idea may have wider scope. You could argue that line employees who are enthusiastic about team training and participation techniques are motivated, in part, because they anticipate being liberated from management dominance in the workplace.

Motivation To Learn Can Be Increased

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Although it may be true that "the best motivation is self-motivation," some evidence suggests that adult learners who are with you in body but not in spirit can be led into participating and learning. If you can stimulate curiosity about the subject matter, demonstrate early on that the learning will be immediately useful, and ensure low risk for learners, you can convert some of the uncaring. Sometimes, simply exploring learners' positive and negative expectations can clear the air and increase participation.

Curriculum Design

Knowles cautions that adults confronted with a classroom and 30 chairs facing forward know exactly how to act: like bored 12-year-olds. Twelve to 18 years of pedagogic conditioning can do that to you. But the warning is important for designers of adult-learning experiences. If you think that those 30 forward-facing chairs represent the optimum learning environment, don't be surprised if you end up with bored compliance. The most dramatic alternative is self-directed curriculum design (see the sidebar at the end of this chapter), but adult-learning theory offers clues for corporate curriculum design as well.

The Learning Experience Should Be Problem Centered

Working adults are likely to be less enthralled by survey courses than are full-time, professional students. Adults tend to prefer single-concept, single-theory courses that focus on applying the concept to relevant

problems. This tendency increases with age. The learning experience should acknowledge and be relevant to the learner's personal goals for the program.

Preprogram Assessment Is Important

It is almost unconscionable to design a program that doesn't take into account the entry-level knowledge and understanding of participants. To begin a team-building experience or diversity seminar without assessing where individuals stand on critical issues, without ferreting out information on the state of relationships in the company, or without clearly defining management's goals for the training borders on malpractice.

The Learning Design Should Promote Information Integration

To remember and use new information, adults need to be able to integrate it with what they already know. Information that conflicts sharply with what they already hold to be true, and thus forces them to re-evaluate the old material, is integrated more slowly. Information that has little conceptual overlap with what they already know also is acquired more slowly. Fast-paced, complex, or unusual learning exercises interfere with the learning of concepts or data they are intended to teach if the new information is too "foreign" to participants.

Adults tend to want a structure to help them keep track of details and facts in relation to one another. One school of thought suggests that adults have "personal maps of reality" in their heads that they use to organize information and experiences. Instruction should help the learner place new information on that "map."

Information conveyed through storytelling is more than entertaining; evidence suggests that it is more easily integrated with existing knowledge. Well "storied" information has a sort of learning adhesive that makes it stick to previous learning and experience.

To help learners organize and integrate information, present one idea at a time. Summarize frequently to facilitate retention and recall. And pace the training so that learners can master one element before moving on to the next.

Exercises and Cases Should Have Fidelity

Adults are not enthusiastic about far-fetched cases and artificial exercises. They prefer activities that are realistic and involving, that stimulate thinking, and that have some (but not too much) challenge. Adults

evaluate exercises and games quickly and decide whether they are entertaining, useful, or just plain silly.

The term *praxis*, a Greek word meaning “exercise or practice of an art, science, or skill,” has begun to appear in adult-learning literature to describe exercises and activities. The concept acknowledges that although adults prefer active to passive learning (meaning that they like exercises, cases, games, and simulations), the activity must contain a reflective element if learning (or change) is to occur. The literature enthusiastically endorses interactive computer simulations and games as high-fidelity learning experiences, although it holds little data that evaluate these methods.

Feedback and Recognition Should Be Planned

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Learners need to know what they are trying to accomplish and how they are doing. The program design should include time to explore participants' goals and expectations, to acknowledge those that will not be met, and to discuss both participants' and trainers' responsibilities during the training.

Adults tend to take errors personally and to let them affect their self-esteem. Therefore, they're liable to stick to tried-and-true solutions and take few risks. Adults will even misinterpret feedback that corrects errors as positive confirmation. If you plan to ask participants to give each other feedback, demonstrate beforehand how to give effective feedback.

Curriculum Design Should Account for Learning-Style Differences

If we've learned anything from all the attention paid to the Myers-Biggs Type Instrument, DISC, and Neurolinguistics Programming in the last decade, it is that adults have learning-style differences and that your design should accommodate them, where possible. (For more on adjusting to learning-style differences, see “Different Strokes: Learning Styles in the Classroom,” *TRAINING*, March 1995.)

Do not, by the way, assume that all instruction must take place in a classroom/seminar/workshop. Although most adults learn well when they have an opportunity to share their life experiences and actively contribute to the learning effort, plenty of people also learn well from nonhuman media. Tough and others have found that adults planning self-directed learning projects routinely include books, television, computer-based training, and other solitary media.

Regardless of media and learning style, most adults prefer straightforward, how-to content. As many as 80 percent of the polled adults in one study cited the need to learn applications and how-to information as their primary motivation for involving themselves in a learning project, self-directed or otherwise.

Design Should Accommodate Adults' Continued Growth and Changing Values

Although it is not as hot a topic in literature as it once was, the idea that adults go through developmental stages just as young children and adolescents do is still with us. Not only do adults' needs and interests continually change, so do their values. A seminar group composed of new college recruits and one composed of 50-year-olds can be quite different. The trainer must take into account the life stages and values of the participants. In an orientation course for new employees, for instance, recent college grads might require not just indoctrination into the company's culture but some background information about the business world in general. With the 50-year-olds, the trainer may more safely assume that they have such background knowledge.

Equally important to curriculum designers is whether concepts are in concert or conflict with the organizational and personal values learners accept as valid. A company attempting to move from, say, a low-profile, reactive market strategy to an aggressive, high-visibility stance will likely encounter significant resistance from employees schooled in the "old way." Changing an organization's values dramatically requires more than new brochures and a few buckets of paint. Changing people's long-held values takes careful, planned intervention. New or radically different ways must be explained repeatedly and in different ways before they will be understood and accepted.

Designing Transfer Strategies

More often than we care to admit, the training was a smash hit with the participants but the performance problem didn't go away. And more often than not, the fault lies in a training design that stops at the classroom door. Adults engage in workplace-learning activities for a productive end. The training is supposed to "transfer" to the real work environment; something is supposed to change back on the job. Failure to design transfer activities into the training breaks the implicit contract between trainer and trainee.

Transfer strategies include pre-training and post-training activities, as well as discussions during training that focus on using the new knowledge or skills back on the job. Proven pre-training strategies such as

self-assessments, discussions with supervisors that define expectations, and pre-classwork such as reading or data-gathering set the stage for effective transfer of training. Successful post-instruction strategies include application discussions with supervisors, refresher training, and support group meetings for graduates of the training.

In the Classroom

Before the Knowles era of adult-learning theory, most of the research in adult education focused on teacher behavior. So it is ironic that we still know so little about effective classroom facilitation techniques. Yes, tomes have been written on the subject, but most of what is presented as “proven” is simply a compost of tricks, tips, and theory passed on from master performers to their acolytes.

The problem with that approach to accumulating wisdom is that it usually takes an objective observer to distill the essence of how to become a master performer. As communications guru Marshall McLuhan put it, “We don’t know who discovered water, but we can be pretty sure it wasn’t a fish.”

Still, it is possible to piece together the common threads that run through all this advice and to suggest some useful guidelines.

Create a Safe and Comfortable Environment

If you’ve ever walked into a dark hotel meeting room the morning after a late-night party and wondered how in the heck you are going to turn this into a learning environment, you know the importance of staging. Both the physical and psychological environment must be managed. Light, sound, heat, cold, supplies, and amenities must be conducive to thought, focus, and serious discourse. Participants need a mix of known and unknown, active and passive, serious and whimsical to keep them involved at an optimum level.

Facilitation Is More Effective than Lecture

Straight lecture is effective when trainees have zero grounding in the subject matter, when rules and regulations have to be passed along, and when matters of finance, fact, or law are the subject of the training. But facilitation tends to work better to engage learners in setting objectives, to tap into learners’ experience and opinions to create parts of the content, and to help participants reach consensus.

What constitutes good facilitation? Although there are myriad views, most agree that a good facilitator does the following:

- Establishes goals and clarifies expectations (both the facilitator's and the participants').
- Gives up the need to hold forth and be in control.
- Uses questioning techniques to provoke thinking, stimulate recall, challenge beliefs, confront opinions, draw implications, and promote conclusions.
- Understands that adults have something real to lose in a classroom. Their egos are on the line when they are asked to risk trying a new behavior in front of peers.
- Balances the many factors that make up a learning event: presentation of new material, debate, discussion, and sharing of relevant trainee experiences. And does all this within the allotted time.
- Develops a learning environment that draws on participants' experiences, protects minority opinion, keeps disagreements civil, makes connections among various opinions and ideas, and reminds the group of the variety of possible solutions to the problem.
- Uses descriptive feedback and reinforces participants for their contributions and accomplishments.

Actively Promote Understanding and Retention

In some ways, this is as simple as recognizing that most adults aren't used to sitting passively for long stretches. Without activity, they turn into mushrooms before your eyes. But there is more to it than that. Despite (and frequently because of) the presence of an instructor/authority figure, many participants are reluctant to share ideas, feelings, confusion, and annoyance with the group. Techniques such as breaking participants into small groups increase the chance that the reticent will contribute and collaborate.

The opportunity to exercise new skills in the relative safety of the training room is critical. Frequently, participants are hesitant to try out new and untested skills in front of others. Using small praxis teams that practice, reflect, and try again can overcome the reluctance to risk.

Helping adults acquire new skills and knowledge is an exhilarating, irritating, challenging, and frustrating way to make a living. It takes patience, forbearance, flexibility, humor, and a strong belief that what you're doing matters. If we keep trying and prodding and testing and trying again, we might yet turn this art form into a science of sorts.

Adults Who Do It Their Way

The developing area of self-directed learning offers plenty of evidence that adults are perfectly capable of acquiring skills, knowledge, and self-insight on their own. They don't necessarily need any experts to design or manage the learning process for them. And when they perceive a need to learn something, they don't stand around waiting for such experts to appear.

In the 1970s, Toronto researcher Allen Tough, a faculty member at the Ontario Institute for Studies in Education, found that typical adults spend 500 or more hours a year engaged in five "learning projects" of their own design. That finding greatly surprised most adult-learning experts, and subsequent research disputes Tough's numbers (one highly regarded study put the figures closer to three learning projects and 150 hours a year). Whatever the "true" numbers may be, adults' status as self-directed learners is well established.

A significant amount of research focuses on the way adults organize their self-directed learning projects. Some researchers contend the process is linear and orderly; some suggest it is more a haphazard, trial-and-error affair. Whatever the case, Malcolm Knowles, Tough, and others have worked out a useful heuristic for making the most of a self-directed learning effort.

Step "zero": You become aware that there is indeed something you need to learn. Let's say you bought a new graphics software package and don't have the foggiest idea how to use it.

Step 1: You identify what you want to learn. Do you want to become a high-tech Van Gogh with that new software or just learn to plop prepackaged cartoons into reports?

Step 2: You diagnose the skill or knowledge you need to achieve the end you have in mind. Think of it as a do-it-yourself needs assessment: You load the graphics program, fiddle with the menus, and see what you can make it do without opening the manual. (You *know* you do.)

Step 3: You develop a plan of inquiry and a list of resources. Translation: Browse the manual, call two people who already use the program, and check the local bookstore for a "Graphics for Idiots" guide.

Step 4: You begin proactive learning. You start to read the manual, you try the program, you fit some graphics into an old report. And when you get stumped, you call people on your list to help you get unstuck.

Step 5: You evaluate whether you have met your learning objectives. The next time you have a report, you try using the package for real.

Step 6: You rediagnose your learning needs and repeat the process. Knowles adds one important caveat to his enthusiasm for self-directed learning: Self-direction is only effective when the learner has some basic level of experience with the content. "Pedagogical methods are appropriate in those cases in which the adult is indeed a dependent learner," he told *TRAINING*. "For example, the person may have no experience

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with a personal computer. The andragogical teacher will have to provide didactic instruction up to the point where the learner has acquired enough information and skill to be able to direct his or her own learning."

According to Tough's research, self-directed learners tend to be eclectic in their choices of media and method. Although adults prefer self-direction 7-to-1 over group-learning experiences led by a professional educator, they will attend lectures and short seminars if these seem the shortest route to the desired destination.

Apparently, the self-directed learner is very efficiency minded. Tough suggests that the typical adult asks, "What is the cheapest, easiest, fastest way for me to learn to do that?" and then proceeds along this self-determined route. An obvious implication for corporate trainers: trainees must have a hand in shaping the curriculum of a program.

Tough's research further suggests that an adult's typical learning project is hardly a solitary affair. He finds that the average self-directed learner enlists 10.6 other people in a given project. Adults engaged in regular self-directed learning projects develop learning networks to help themselves acquire the skills and knowledge they need. In return, they act as learning resources for others.

More evidence of the collaborative tendencies of adult learners comes from a five-year study conducted during the mid-1980s by Honeywell Corp. in Minneapolis. The company found that on-the-job experiences, relationships with others, and formal training accounted for 50 percent, 30 percent, and 20 percent, respectively, of a manager's ability to manage effectively on new assignments. In other words, managers learned more about succeeding in a new position through trial and error and by getting a little help from their friends than from formal training.

People familiar with successful self-directed work teams suggest that acquiring and using learning resources is an important part of a team's discipline. The idea of a group of like-minded adults coming together (unfacilitated) to meet mutual learning goals has a long history. In 1727, Benjamin Franklin created a group he called the *Junto*. It was composed of fellow entrepreneurs who shared the belief that "individuals associated can do more for society, and themselves, than they can in isolation." Franklin's *Junto* was, in turn, founded on an earlier form, the Friendly Societies, developed in England by writer Daniel Defoe.

In the 1990s, encouraged by the recent "learning organization" rhetoric, several corporations have experimented with the idea of making space and resources available for groups of employees to design and conduct their own ongoing learning without the intervention of a trainer or manager.