



# The Evolution of U.S. Army Training Programs

By Dr. Rick Swain

The 233-year evolution of Army training programs began back when a weak band of patriots was freezing in the fields and woods of Valley Forge, Pennsylvania. Over the years, various training programs have transformed what was once a group of disorganized volunteers into the most powerful army in the world.

Success on the battlefield depends on getting the right thing done at the right time during every mission. Will future technological advances be used to enhance the job performance of chemical, biological, radiological, and nuclear (CBRN) Soldiers? Can the training programs that are envisioned over the next decade provide professional CBRN Soldiers with the knowledge, skills, and abilities required to protect the Nation from the threat of weapons of mass destruction?

The theoretical educational paradigms of behaviorism, cognitivism, and constructivism can be used to explain how individuals think and learn. Changes in these educational paradigms bring the promise of better-trained, more capable Soldiers and leaders.

## Behavioral Paradigm

Behaviorism focuses on the repetition of a new behavioral pattern until that pattern becomes automatic.<sup>1</sup> Ivan Petrovich Pavlov was the first to study the behavioral paradigm in a scientific way. In his now-famous experiment, Pavlov explained the known phenomenon of a conditioned response by observing a dog's reaction to stimuli associated with food.

His findings were a wonderful addition to what was known about the behavioral paradigm—namely, that impressions made through repetition can be placed into memory. These are the same impressions that Aristotle wrote about in *On Memory and Reminiscence*.<sup>2</sup>

Historically, the U.S. Army has used the behavioral paradigm for training—starting in the winter of 1777, when General Frederick William Baron von Steuben began shaping the band of Patriots into a formidable force at Valley Forge. General von Steuben's focus was on Soldier training. The first training program involved drill in the Manual of Arms and marching in formation.<sup>3</sup> In full military dress uniform, von Steuben yelled and swore at the inadequately clothed Soldiers in German and French—which they did not understand. But, it was clear that von Steuben cared for the Soldiers. And his humor and eclectic personality greatly enhanced his mystique.

Von Steuben introduced a system of progressive training, which began with a “model company” comprised of 100 chosen men. Once those men were trained, they successively branched outward into each brigade. Company commanders were responsible for training new Soldiers. General von Steuben's approach was similar to today's concept of “crawl, walk, run.”

The early idea that a trained action becomes an unconscious response through repetition and drill is a key element that has continued to the present.<sup>4</sup> Battle drill was a close-order drill, and speed of firing could only be obtained by drilling men

in the handling of firearms until the motions of loading and firing became mechanical. As is the case today, instruction was conducted by the best sergeants.

The idea of enforcing values in the Army originated with the first manual on drill, written by General von Steuben in 1778. The value codified by von Steuben was respect. He noted that the first objective of a U.S. officer should be to treat his men “with every possible kindness and humanity.”<sup>5</sup>

Solving an urgent need to train shipyard workers during World War I, Charles R. Allen adapted Johann Herbart’s five-step process. He called it the “show, tell, do, and check” method of job instruction.<sup>6</sup> The ability to quickly and effectively train personnel became imperative for national survival during World War II, and job instruction training (or “train the trainer”) programs were instigated. The behavioral paradigm continued during the Vietnam War. Training was typically short and intense; noncommissioned officer (NCO) academies produced what was called “shake and bake” NCOs. After the Vietnam War, the U.S. Army Training and Doctrine Command (TRADOC) was established to address lessons learned. General William E. DePuy, the first commanding general of TRADOC, addressed training problems discovered during the Korean and Vietnam Wars. His suggestions included testing Soldiers on what they needed to know and adopting an indirect approach to tactical operations.<sup>7</sup>

There were three components to the overall Army training strategy—resident training, unit testing, and individual testing. As a result of increasingly lean budgets following the Vietnam War, TRADOC leaders determined that much of the individual training would need to be conducted in units. Training developers began to develop and field several programs designed to take the training to the Soldier—for example, mission rehearsal exercises and a new literature program including Soldiers’ manuals and training extension courses. Mission training plans (1974–2005), skill qualification tests (SQTs) (1973–1993), and skill development tests (1993–1995) were used to test on-the-job performance of Soldiers. SQTs provided the Army with statistical feedback on how well Soldiers were trained and on their technical proficiency. The idea of awarding incentive pay to those who passed tests was a great concept that needed organizational attention—not elimination. Currently, there is no mechanism for collecting data that determines whether or not the Army has a trained and ready force.

### **Cognitive Paradigm**

While many believe that the cognitive paradigm is entirely different from behaviorism, cognitivists actually build on the concepts of the behavioral paradigm. “Cognitive theorists recognize that much learning involves associations established through contiguity and repetition. They also acknowledge the importance of reinforcement, although they stress its role in providing feedback about the correctness of responses over its role as a motivator.”<sup>8</sup> The acceptance of the behavioral paradigm by most cognitivists allowed knowledge to be added to the

theory of learning. The cognitive ideas of schema, long- and short-term memory, and sensory register gained acceptance. When a battle of thought in psychology and education erupted between the two camps, the constructive paradigm emerged, adding another dimension to the controversy.

### **Constructive Paradigm**

The constructive paradigm expanded on the cognitive theory, adding the theory that individuals literally construct their own meaning from an educational experience. Constructivists believe that there is a cultural context to the construction of knowledge and that each student’s construction is different from that of all other students. The idea of teachers as coaches, mentors, and facilitators emerged from this paradigm. These techniques are currently used in CBRN training.

### **Future Army Training**

Training and discipline go together like bread and butter. And they are intrinsically linked to the military. Military training and discipline have been around since before the time of the Spartans. The history of military training is replete with cases of training by example and perfect discipline—even if it meant death or injury. Throughout history, the best-trained and best-disciplined armies with the best technology have proven victorious in battle.

As previously described, the behavioral paradigm has historically been used in Army training. Some actions that a Soldier must take to survive in a combat environment involve immediate and automatic behavioral responses. Those skills must be drilled and practiced until they become an unconscious response to the stimulus. For example, when faced with a CBRN attack, Soldiers must react with a conditioned response such as donning protective masks and CBRN equipment. The engagement of threats with a primary weapon system is another example of an action that requires an unconscious response. However, many Army trainers and educators are unaware that the Army uses a behavioral paradigm for training because they do not realize that other paradigms exist.

The idea that all Army training and education should follow the behavioral paradigm is ludicrous. One theory does not fit all situations. However, the idea that all Army training should be changed from a behavioral- or performance-based paradigm to a cognitive- or constructive-based paradigm is just as ludicrous. Changes to the traditional behavioral training paradigm of the Army will require changes to generally accepted societal assumptions. The analysis and proper combination of educational paradigms will result in appropriate training and education experiences for Soldiers. The challenge is to determine the educational theory appropriate for teaching different tasks.

Unfortunately, failure is sometimes needed to bring about change. The rote training regimes of the past are beginning to lose their gleam of total success. The realization that other methods can and do work is beginning to affect Army training.

The political dimension of using the appropriate theoretical basis for Army training and education is becoming acceptable, largely because Soldiers entering the military have been educated in schools and institutions using a different theoretical paradigm. The use and teaching of Bloom's Taxonomy<sup>9</sup> in military schools is a great step toward understanding the theoretical basis for educating Soldiers. One of the most prominent examples of change in the use of educational paradigms in the Army involves critical-thinking training—an initiative implementing cognitive and constructive paradigms to train new Stryker brigades at Fort Lewis, Washington.

In addition, the general citizenry has been acclimated to military forces through the newest video games. Although the objective of commercial video games is to provide fun, they can serve as military cultural assimilation tools. Games that involve strategy and tactics indoctrinate players to the military way of thinking, while also providing them with a knowledge of military history. These games ease the assimilation of the general population into the military culture. A citizenry trained in higher thinking skills with a shared, military-based culture is reminiscent of the Spartans of ancient Greece.

Video game technology also provides future Soldiers with defense skills that are valuable for years to come. The weapon systems of today are similar to video games that were popular in the 1970s. For example, the Patriot operator's screen can be likened to the Missile Defender game and the operation of M1A2 Abrams tanks and M2 Bradley fighting vehicles is similar to the Tank Destroyer games. Likewise, the video game technology that is so prevalent today (\$16.9 billion of "edutainment" software sold in 2003<sup>10</sup>) is providing future Soldiers with skills that will have a positive effect on our defense capability for the next twenty years. The skills required to remotely control a shooting game are the same skills needed to remotely pilot an unmanned aerial vehicle. The video game technology of today is the basis for future weapon systems; so as our sons and daughters play games in the arcade, they are actually practicing the weapon skills that our Nation needs.

Given the interconnection of edutainment software to the weapon systems envisioned for the future, you might ask, "Which came first?" It probably doesn't matter; all great societies have had a martial ethos that resulted in the creation of the greatest military force on the planet.

For the Army's part—it is producing current, state-of-the-art, interactive multimedia instruction. Army simulations and training devices place the Soldier in realistic situations, requiring them to make decisions that exercise critical thinking skills.

## Conclusion

The stagnant behavioral paradigm traditionally used in Army training has not meant death for Soldiers; rather, it has resulted in good training for the past 233 years. However, as the threats to our Nation continue to evolve, the need for the

construction of meaning will increase. The requirement for critically thinking Soldiers should push the Army to adopt other educational paradigms. The idea that the Army *must* change is really not true. The idea that the Army *should* change to better train our Soldiers is true. 

### Endnotes:

<sup>1</sup>Donald Clark, "Big Dog and Little Dog's Bowl of Biscuits," 1 December 1999, <<http://www.nwlink.com/~donclark/hrd/history/war1.html>>, accessed on 2 September 2008.

<sup>2</sup>Aristotle, "On Memory and Reminiscence," <<http://classics.mit.edu/Aristotle/memory.html>>, accessed on 2 September 2008.

<sup>3</sup>Frederick William Baron von Steuben, *Baron von Steuben's Revolutionary War Drill Manual* (commonly known as the "Manual of Arms"), Dover Publications, Inc., Mineola, New York, 1779, pp. 99–103.

<sup>4</sup>"Who Served Here? Baron Von Steuben," Independence Hall Association, <<http://www.ushistory.org/valleyforge/served/steuben.html>>, accessed on 2 September 2008.

<sup>5</sup>Frederick William Baron von Steuben, *Baron von Steuben's Revolutionary War Drill Manual: A Facsimile Reprint of the 1794 Edition*, Dover Publications, Inc., New York, 1985.

<sup>6</sup>Clark, 1999.

<sup>7</sup>Transforming the Army: TRADOC's First Thirty Years, 1973–2003, Military History Office, U.S. Army Training and Doctrine Command, Fort Monroe, Virginia, 19 June 2003, <<http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA434030&Location=U2&doc=GetTRDoc.pdf>>, accessed on 12 September 2008.

<sup>8</sup>Thomas L. Good and Jere E. Brophy, *Educational Psychology: A Realistic Approach*, Fourth Edition, Longman Group, White Plains, New York, 1990.

<sup>9</sup>Bloom's Taxonomy is a hierarchical means of classifying educational learning objectives into three domains—affektive, psychomotor, and cognitive. The belief is that educators should focus on all three of these domains to create a more holistic form of education.

<sup>10</sup>Reuters, "Record Games Sales Roaring Into Overdrive," 12 March 2003, <<http://us.cnn.com/2003/TECH/fun.games/03/12/game.sales.reut/>>, accessed on 2 September 2008.

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