Safety Leadership
Insights From Military Research

By Gary L. Winn

The need for leader development in industry and within the safety and engineering communities in particular is the topic of many articles, presentations and conversations. This article explores the need to consider organizational research conducted by military research psychologists, sociologists and economists.

Two audiences within the safety and engineering communities might best gain from military organizational research. Working safety and engineering professionals are often challenged to become leaders who can see the big picture and act as change agents. These professionals can benefit from understanding how leaders emerge and are cultivated internally in the military. In addition, many safety professionals or engineers just starting their careers have not held jobs while in school and, consequently, have missed opportunities to see how businesses operate and how authentic leaders act.

Over the past few years, the author has been building an experimental graduate-level course at West Virginia University (WVU). The course is designed to offset these missed opportunities for safety and engineering students. WVU surveys indicate, for example, that only a few young people entering these professions have worked summer jobs. In addition, they have not traveled widely, do not read widely, and have not managed so much as a fast food restaurant shift or a swimming pool. On the more hopeful side of the ledger, the same surveys suggest that these future professionals are almost intuitively altruistic, have good common sense and know they are expected to be future leaders in their fields. As Winn, Williams and Heafey (2013) explain:

In the pair of questions ranking at the highest affirmative response of the entire survey, our respondents indicated that learning about leadership in their career preparation was "important in a person's career path." The same extraordinarily high proportion, 98%, suggested that to practice what they might have learned about leadership outside the classroom was "important in a person's career path." *Students know that learning about leadership and its practice is valuable to these respective career paths including safety, engineering, social and behavioral sciences, and the military, among others.* [original emphasis]

In preparing the course, many existing academic syllabi on leadership were reviewed. Although a few contained respected academic treatises on leadership and were research based (e.g., Northouse, 2013), most required texts were volumes of well-packaged, bulleted words of wisdom presented as empirical work on leader development.

While visiting military schools during the data-gathering process, the author concluded that many teaching safety and engineering academic courses in leadership are either unaware of or actively ignore the bounty of information and research on organizational behavior written by military academicians and scholars.

This finding was intriguing and raised some questions: Why did the military leadership syllabi used at Virginia Tech or Virginia Military Institute (VMI), for example, include research by nonmilitary researchers such as Edgar Schein, Geert Hofstede, Kurt Lewin or Jean Piaget (among many available), yet the academic leadership syllabi reviewed contained no mention of Thomas Kolditz, Michael Matthews, Doug Crandall or Patrick Sweeney (among the dozens of military researchers available). Are military theorists and researchers somehow hidden from nonmilitary academics or are they simply being ignored?

More research revealed that some academic and military institutions do exchange concepts. For example, Harvard Business School (an academic institution) regularly conducts field trips to Gettysburg, PA, to analyze the strategic and logistic decisions made by James Longstreet and Robert E. Lee compared to George Meade and Joshua Chamberlain. During these trips, military historians and business analysts are on hand to provide details about the difficulty of making life and death decisions under extreme conditions.

As more materials were reviewed, it became clear that safety and engineering undergraduate

IN BRIEF
- Commitment, loyalty and trust come from a personal moral code of ethics. It begins with an analysis of an individual's values, not from the organization.
- The military's "Be, Know, Do" model for leader development was created by a consortium of research work performed by military and private interests.
- Experiential training is primarily what differentiates military missions from nonmilitary. In essence, the only time the military stops its hands-on training is to deliver different hands-on training. Leader development takes a long time and concentrated effort.

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curricula developers should be paying attention to what military researchers write about leadership. One late-night reading marathon brought the author to some writings of Jim Collins (author of *Built to Last* and *Great by Choice*) and the realization that safety students and military personnel share some incredible similarities in mission and mode: Preserve and protect the people, property and business efficacies of the respective organization.

In the foreword to *Leadership Lessons From West Point* (Crandall, 2007), Collins notes, "In business, if you make a bad decision, people lose money and perhaps jobs. In the military, if you make bad decisions, nations can fall and people can die."

Consider the weight of that final phrase, "people can die." Is it any different in safety or engineering compared to a young second lieutenant? When leaders in any hazardous enterprise make bad decisions, people can die. The effect of Collins's two simple sentences was definitive: Military organizational researchers had to be considered in the development of the WVU course.

It Starts With Values

Probably the most important difference between the way the military trains future leaders and the way the outside world does so is that the military starts with values, not people. The military spends much time inculcating personal values because only tightly held, deeply committed values can lead to an organization's tightly held, deeply committed core values. Essentially, the military says to its trainees, "We all have to be on the same page of trust, respect and loyalty to our overall mission and to our people."

The military academies start this time- and resource-intensive process by presenting an honor code within the first hour of new cadet training. West Point and VMI share the same code: "A cadet will not lie, cheat, steal or tolerate those who do" (Photo 1). Alumni from these schools often note that the honor code made a lasting impression on their lives and how they treat others.

Military Organizations vs. Industrial Organizations: Are They Really So Different?

One critique of using military exemplars is that these organizational prototypes are different animals. It has been said, "Military leaders have a workforce trained to work as a unit while general industry relies on commitment from every level of the organization. In many cases, there are simply too many 'X' factors." Another critique points to the fact that highly visible leaders have been exposed for making poor personal choices (e.g., U.S. Army General David Petraeus admitting to an extramarital affair).

Are these really differences? Certainly, the military has a highly trained workforce, but so must industry. Private industry relies on commitment from every level of the organization to function well, as do military organizations. The Petraeus story was an embarrassing public incident for military leaders, but public business leaders have been
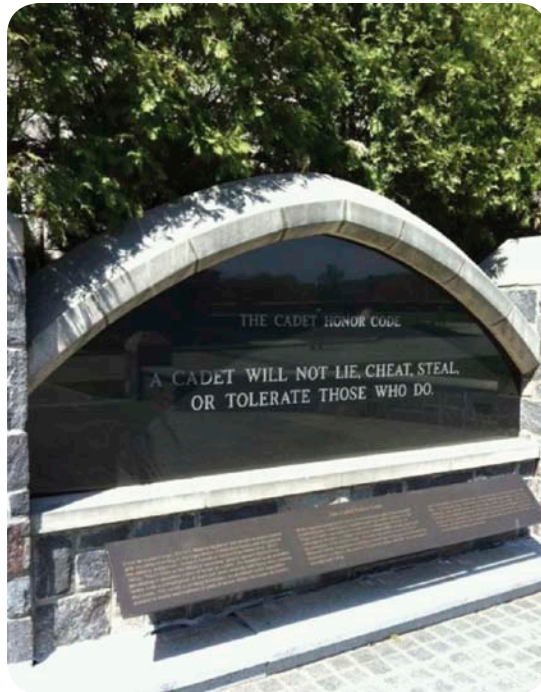
embroiled in public scandals as well. Furthermore, while industry must deal with market vagaries, environmental rule changes and regulatory concerns, the military has its own X factors (e.g., IEDs, terrorists dressed as businessmen, trusted officers turning on unarmed soldiers without warning).

Why Pay Attention to How the Military Trains Its Leaders?

The U.S. military has been training leaders for about 213 years, dating back to the establishment of West Point. Many mistakenly believe that West Point (or sister institutions such as the U.S. Naval Academy or U.S. Air Force Academy) prepare leaders only for military applications. While many graduates make the military a career, others serve their initial 5-year active duty obligation, then enter industry or government and apply the same skill set. For example, Wendy's, Johnson & Johnson, Procter & Gamble, Goodrich and Foot Locker all have had CEOs who graduated from a military academy. Consider also the similarity of day-to-day conditions that young people in industry encounter compared to a young platoon leader. In the sidebar on p. 34, Colonel Bernie Banks discusses ways to bring military thinking on leadership to the industrial community.

Authentic Safety Leadership: It's More Than Saying "We Have Core Values"

Schein (2004) defines culture as:

(a) pattern of shared basic assumptions learned by a group as it solved its problems of external adaptation and internal integration, which has worked well enough to be considered valid, and, therefore, to be taught to new members as the correct way to perceive, think and feel in relation to those problems.

Schein (1992; 2004) applies the anthropological notion of culture to organizations, and suggests that organizational culture emerges when groups attempt to solve problems. When they do so successfully, patterns emerge. "Organizational cultures, like other cultures, develop as groups of people struggle to make sense of and cope with their worlds" (Trice & Breyer, 1984).

Schein's (2004) research identifies three levels by which to evaluate an organization's adherence to its core values (Table 1). An authentic leader displays all three levels. That is, an authentic leader will have artifactual values and stated values as long as s/he also displays actual values at the same time. Having a stated set of core values in safety that are printed for employees and published on a company's website is not enough. Unless a company can develop and display all three levels of culture over time (artifactual, espoused and in-use values), then having a safety culture or core safety values is just talk.

On the other hand, a forklift driver does not need the title of CEO or foreperson to manifest his actual values by voluntarily instructing a new employee how to inspect the truck's brakes each day whether the rules require it or not. Behavior that is manifested because it is the right thing to do, not just because it is printed and posted throughout a facility, reflects authentic leadership.

Introducing Bernie Banks

Colonel Bernie Banks flew helicopters in combat just like his dad. He completed his Ph.D. at Columbia in social and organizational psychology after he finished six separate master's degrees. He is a professor in and chair of the Department of Behavioral Science and Leadership at West Point. In a *Harvard Business Review* blog series on leadership lessons from the military, Banks (2010) writes:

Col. Bernie Banks in his West Point office.

Today's organizations operate in what the Army War College defines as a VUCA environment. Volatility, uncertainty, complexity and ambiguity are constant realities in the 21st century. The military seeks to prepare for the challenges it will inevitably face by crafting realistic training scenarios and routinely integrating such activities into its ongoing operations. The goal is not to teach them what to think, but to enhance their ability to think critically and creatively about the myriad of contingencies posed by a fluid environment—in essence to teach them *how* to think.

As a way to improve a leader's capability to influence decisions and get the best out of followers, the military emphasizes experiential training. It is important to consider how different training is for industrial settings from the military. The same basic tools are in place: assessing needs, writing concrete objectives and so forth. However, experiential training in the military is undertaken all the time. Banks (2010) continues:

In industry, 90% of time is typically devoted to executing business actions, and less than 10% is allocated for increasing organizational and individual capabilities through training. The military, on the other hand, spends as much time training as it does executing—even in the midst of high-stress/high-risk operations. A unit in Afghanistan . . . will not suspend its experiential training program while involved in combat operations, because its ability to cogently and creatively address future challenges is enhanced by an enduring commitment to improving people's competence and adaptability through experiential exercises, as well as actual experiences.

Banks, B. (2010, Oct. 28). How companies can develop critical thinkers and creative leaders. HBR Spotlight: Leadership lessons from the military. *Harvard Business Review* blog network. Retrieved from **http://blogs.hbr .org/2010/10/how-companies-can-develop-crit**

The Military's Simple Algorithm: Be, Know, Do

People work in hazardous conditions whether patrolling in Afghanistan or performing roof work on a high-rise building in Chicago, IL. Consequently, leadership training is crucial to success and minimizing injuries. Tom Kolditz is a trained sociologist who, after retiring from West Point in 2012, became leader of Yale's School of Management Leadership Development Program. About military leadership training, he writes:

[M]ilitary leadership qualities are formed in a progressive and sequential series of carefully planned training, educational and experiential events—far more time-consuming and expensive than similar training in industry or government. Secondly, military leaders tend to hold high levels of responsibility and authority at low levels of our organizations. Finally, and perhaps most importantly, military leadership is based on a concept of duty, service and self-sacrifice; we take an oath to that effect. We view our obligations to followers as a moral responsibility, defining leadership as placing follower needs before those of the leader, and we teach this value priority to junior leaders. (Kolditz, 2009)

Essentially, the military recognizes that developing leaders is a lengthy, painstaking process, and that a culture of caring for fellow workers or soldiers must be based on values that are used, not simply espoused. In military training circles, the process of leader development starts with an examination of personal values, not theory.

The robust framework of leader development used by the Army begins with an examination of personal values. It is known as "Be, Know, Do" (Hesselbein & Shinseki, 2004). Deceptively simple, this model is a careful blend of military and nonmilitary exemplars; it uses a framework developed by a group of military and industrial behavioral scientists based on the integration of identity and competency attributes.

The Be Characteristic

The model is far from an instant leader-maker. It recognizes that potential leaders must first exemplify the ideals of a *leader of character*. A leader of character must not only act the part but also become a person who exemplifies it in everyday life at work, in competition and at home. Such an individual exem-

plifies the values of loyalty to company and family; has a duty to fulfill obligations; shows respect for people; puts the welfare and safety of country, company and family above self; shows honor in knowing what is right and wrong and rejecting moral relativism; has the integrity to do what's right, both legally and morally, every time; and

Table 1
Schein's Levels of Culture

Level	Values	Appearances	Authentic?
Level one	Artifactual values: What people say they value or how values appear (you see that aspect of culture)	Example: Company logo with a green cross embedded in it	Not clearly congruent with actual values but could still be authentic
Level two	Stated values; espoused values (you hear that aspect of culture)	Example: Policy stating "no tolerance for drug use at work"	Not clearly congruent with actual values but could still be authentic
Level three	Actual values (you live that aspect of culture)	Example: Intervention; actively stopping an unsafe act without being told to do so	Congruent and authentic leadership

Note. Adapted from Organizational Culture and Leadership, *by E.H. Schein, 1992, San Francisco, CA: Jossey-Bass.*

the personal courage to confront and reject the easy way out. As noted, users of this model begin instilling these core values on day one to newcomers. The core values learned under Be eventually become a dense fabric that binds the rest of the group's work.

Not surprisingly, 25 pages in the *U.S. Army Field Manual* are dedicated to illustrating these core values, five times the space allotted to the Know and Do characteristics (The Center for Army Leadership, 2004). This reflects the importance of buying in to the system first, of adapting one's mental state to the organization's strengths and values.

Otherwise, as the model indicates, there is no point in continuing; the junior leader will not succeed or be trusted later when lives are on the line. A junior officer (or industrial safety professional) who does not hold deep-seated values will not consistently and faithfully act congruently with them. Whether in battle or on the 20th floor of a high-rise, a leader's word must be gold. Under this model, military orders and safety instructions are moral imperatives that place follower needs above leader needs. That is why Be is critical.

The Know Characteristic

Under Know, the model teaches interpersonal skills such as motivating and empowering subordinates. These are largely conceptual skills that foster the use of sound judgment, including analytical, critical and ethical thinking. These are also technical, job-related skills. For example, military leaders will build tactical skills to quickly decode a potential threat on an urban walkaround—should the second lieutenant withdraw his troops? Are the decision points different at that high-rise where scaffold covered with blue tarps is being battered by wind and snow—does the safety professionals stop the work? These are the things a young leader must know and be prepared to act upon.

The Do Characteristic

Under Do, the model focuses on training potential leaders how to influence behavior, the very essence of leadership.

Developing the right values, attributes and skills is only the preparation to lead. Leadership doesn't begin until you act. Leaders who live up to Army [or organizational] values, who display leader attributes, who are competent, who act at all times as they would have other people act, will succeed. Leaders who talk a good game but can't back their words with [congruent] actions will fail in the long run. (Hesselbein & Shinseki, 2004, p. 49)

Experiential Training:
It's Not What We've Been Teaching in Class

In his sidebar, Colonel Banks mentions experiential training. He says that the military trains all the time and does not stop training even if involved in a combat situation. Other military leaders will say that the only way they will interrupt training is for other training.

Such training is not simply showing a video or PowerPoint; it is book training followed immediately by application of that training under anticipated conditions. Experiential training is based on the work of John Dewey and Jean Piaget who suggested that the best learning is learning by doing. It adds hands-on experience to classroom learning.

Learning how to drive is a good example of experiential training. Students spend a semester in a driver's education class, anticipating the chance to practice the cognitive skills learned in real-world situations. No one knows whether they will encounter a bicyclist or motorcyclist at an opposing stop sign, and that is the point. Learners must experience real-world situations (the experiential part). The classroom component is needed, but it is insufficient by itself.

Experiential training is not new. However, its application to safety leadership, particularly under extremis (volatile, unclear, complex, ambiguous) conditions, seems to be a new concept. Training delivered in academia is typically conducted in a safe, well-lit classroom. Nobody gets hot, no snakes or insects are present, and certainly no bullets are flying. Sometimes, courses include hands-on classroom training with PPE (such as a respirator), but how many classes visit a 20-story

high-rise to practice tying off or calculating load on scaffolds?

As Colonel Banks notes, experiential training is an important step in preparing the best leaders. It provides an opportunity to display trust and inspire confidence in a way that classroom training cannot. Trust and confidence are important indicators of how well leaders lead, yet these topics are rarely discussed in academic courses.

This Leader Development Stuff: It's Easy & Quick, Right?

While conducting interviews to collect data for this project, the author met with Brigadier General Casey Brower, former deputy superintendent for academics and dean of the faculty at VMI, and Colonel Tom Merriwether, a VMI psychology professor and researcher. Brower asserted that offering a single course in leadership is insufficient in the creation of leaders who will be change agents in their respective organizations, noting "both West Point and VMI have 4 years of embedded leader experiences, but the 'polar star' is educated leaders of character."

Clearly, it is not possible to distill 4 years' of continual experience into a single college course. Such a full-blown program to develop safety leaders might not be possible at public universities. However, does a similar model exist in industry for progressive development of a supportive culture that could produce leaders? Is there a parallel in industry to the military's 47-month model?

How about total quality? When total quality programs were first discussed, Deming's (2000) advice was to start with top management. He advised these steps: obtain a firm commitment to change the way a company does business; affirm allegiances to collect and use data; and break down barriers between departments. Proponents warned that businesses should not expect overnight success and should not simply cherry pick the easy aspects of a total quality program. Adopting this model requires commitment to making a fundamental change and seeing it through. This parallel is analogous to leader development in the military, and in the author's opinion, it can work in other organizations.

Here's an example of how this approach might work if a department or industrial organization decides it wants to produce not just competent managers, but competent leaders (even leaders of character). The leader-in-training would begin with self-discovery: What defines a professional and what are the safety profession's ethical considerations? Then, this individual would explore his/her personal values, then values-congruent decision making.

Next, the learner would investigate how to make ethics-based decisions that conform to the organization's values, then study organizational culture and research associated with culture change. This would be followed by study of topics such as avoiding toxic leadership, handling difficult employees and managing a fatal event.

Psychological and sociological research in stressors to company and individual morale would be next, followed toward the end of the course by a study of office and business protocol. How long would this process take? As yet, that remains unknown, but this example defines key steps and presents a model.

If one were to take a single point from military organizational research, it is that a low-level skill set must be built before attempting the next, more sophisticated level. Although this cannot be accomplished in an academic classroom, if students know what is needed when they enter the business world, they can begin the study of values-based leadership in the classroom, and become instruments of change once in industry.

This leads to a second central point noted by Banks (2010), as well as Meriwether and Brower in their interviews: Although an academic classroom can never hope to provide the ecosystem for creating safety leaders in a single course, and although the service academies have 4 years to develop leaders, presenting the research and readings sets the stage for learners to begin the personal journeys to internal culture change. The academic course primes the pump as can a motivated leader in an industrial organization.

Stress Harms Workers & Soldiers in the Same Ways

What about the invisible risks, such as job stress or poor organizational morale? Can these be ignored because they are difficult to quantify? Soldiers in a combat environment and workers on the 99th floor of an unfinished office building experience stress. What do the respective researchers say? For example, the notion of posttraumatic stress has migrated from the military to common use in everyday settings and for everyday individuals.

A cross-sectional study of police officers in Buffalo, NY, is examining occupational stress. Originally, researchers were looking for associations between work stress and cardiovascular disease, but as the study evolved, the researchers identified a cluster of symptoms they call *metabolic syndrome.* This syndrome is associated with increased risk of cardiovascular disease and even diabetes (Hartley, Fekedulegn, Burchfiel, et al., 2011). According to principal research investigator John Violanti:

Police recruits need to receive inoculation training against stress. If I tell you that the first time you see a dead body or an abused child that it is normal to have feelings of stress, you will be better able to deal with them; exposure to this type of training inoculates you so that when it does happen, you will be better prepared. At the same time, middle and upper management in police departments need to be trained in how to accept officers who ask for help and how to make sure that officers are not afraid to ask for that help. (Wood, 2012)

Military organizational psychologists are researching soldier stress as well. According to Ness, Jablonski-Kaye, Obijt, et al. (2011):

Most stress-related symptom clusters correlated with operating in a dangerous context are not attributable to a single incident. Thus, a complex of stimulus conditions within the context may constitute the stressor, which is an accumulation of events or situations outside the realm of routine that create a conflict in, or a challenge or threat to, the individual.

Thus, effects of psychological or social stressors accumulate over time, and must be mitigated over time. Ness, et al. (2001), suggest several coping strategies in hazardous situations so that leaders can offset the effects of stress:

•Educate. Provide accurate information so team members can set up appropriate expectations and be psychologically prepared. Communication and updates reduce stress caused by the unknown.

•Train without interruption. Practiced skills are less likely to be disrupted by stress. Ness and collegeues indicate that stress inoculation training using realistic situations better prepares those operating in dangerous contexts for potential stressful situations.

•Maintain unit cohesion. When members of an organization bond, it helps them sustain their will and commitment to each other, the organization and the mission. Cohesive units are less susceptible to the influence of risk factors.

•Establish a culture of catharsis. An experienced leader anticipates that individuals who have experienced traumatic events (e.g., death of a fellow team member) will be stressed and creates opportunities to purge feelings.

•Teach coping strategies. According to Ness and colleagues (2011), people who believe they are in control of their circumstances and their environment feel equipped to handle the stress of hazardous situations. Administrative and bureaucratic conditions can introduce feelings of helplessness. Organizations would do well to destigmatize reporting of stress, facilitate support and eliminate administrative practices that make one feel controlled by the system.

•Commitment, control and challenge. Facilitate commitment by integrating people into the team, and giving them a role and a sense of control to act within that role.

As Ness, et al. (2011), conclude:

Leaders should know their people, know the crucible and establish a culture for catharsis. They should also be aware of the two forms of [psychological] stress-producing experiences: the critical incident and the eroding effect of the dangerous context itself. (p. 55)

Conclusion

The safety and engineering professions need leaders, yet the academic community is still preparing managers. The author's research suggests that students entering the safety and engineering

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professions are underprepared on research-based leadership models even though they recognize the need to understand leadership in the workplace (Winn, et al., 2013). Leadership seminars and training often present distilled wisdom rather than empirical information.

In developing a graduate-level course, the author found no coursework in current academic safety or engineering programs founded on sociological or psychological research ending in authentic leadership, nor do such programs offer courses that address research on identity and competency attributes needed to sustain a values-congruent culture.

Most of the curricula reviewed contain no coverage of military exemplars or military leadership models. It is almost as if these insights on leadership are hiding in plain sight. Is something about these models unapproachable? Why ignore the military's extensive organizational research?

Safety academicians and practitioners should consider military organizational and leadership research and models, its research on experiential training and demands of in extremis situations and more. Military students and safety students share a critical mission: To preserve and protect people, property and business efficacies of the organization. All academic institutions train individuals to operate in volatile, uncertain, complex and ambiguous environments. Furthermore, and perhaps most salient, students should be prepared to handle the consequences of poor decisions. As Collins's foreword in Crandall (2007) observes, people can die as a result of a bad decision. It is prudent to learn how other disciplines try to avoid identical kinds of losses.

The Army's Be, Know, Do model of leader development is easy to understand and easily adaptable to an academic course or an industrial setting. The same goes for paying attention to experiential training, which is much different than training models used in most safety and engineering academic curricula.

This is not to imply that developing some Be, Know, Do presentations and conducting some experiential training will produce instant leaders. No, these components are merely part of the ecosystem of leader development. Just like total quality, cultural development starts at the highest levels, demands company-wide commitment, and may take several years to become authentic at the most fundamental levels.

The process begins with an examination of personal values. While military institutions take 4 years to instill values-based leadership, they do so to produce leaders who put peoples' safety, health and welfare before every decision each day and who expect the same of their subordinates. In the author's opinion, a symbolic move, such as adopting an honor code at the student level, engages students to carry it with them into industry and to expect the same of followers. Perhaps such a move can be a jumping off point for a CEO or foreperson in a small department. While talk of morality, values and honor codes may seem Victorian or old school, those who have gone through the process suggest these simple beliefs change lives long term.

Academic institutions are producing the best safety students ever, but demands to produce leaders continue to increase. Insights from military research and experience are worthy of consideration and incorporation in this endeavor. Maybe it is time to shine the light on these leadership insights that appear to be hiding in plain sight. **PS**

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