Session No. 718

Leader Development and Culture Change in a Depleted Environment

Gary L. Winn, Ph.D.
West Virginia University
Morgantown, WV

Ava C. Dykes, Ph.D.
National Institute for Occupational Safety and Health
Morgantown, WV

Introduction and Literature Review

One of the basic assumptions about establishing a "values-based" safety or engineering culture is that topmost management is supportive and begins the process by pushing these changes downward. But not all organizations have supportive CEOs or Vice Presidents who will foster a supportive leader-development environment; some may be disinterested, some may be unaware, and some may not appreciate internal change. Some upper managers may be happy with simple compliance. Can an individual or small group far downstream develop leaders independent from the organization? Can a motivated individual or small group move the needle toward a supportive values-centered culture, even when upper management doesn't seem to care? We think it's entirely possible to do so by applying some rules and research generated by organizations with successful leader development cultures.

The fields of occupational safety and engineering have embraced the study of leadership with open arms in the past five years or so. The American Society of Safety Engineers (ASSE) and the American Society for Engineering Education (ASEE) have sessions and entire conferences dedicated to the topic of creating leaders and studying what the best leaders do. As most of us know, since 2004, ASSE has offered an annual conference for future safety leaders who are current students studying occupational safety and health. The conference offers the somewhat optimistic opportunity to "learn how to be an effective leader and communicator," and to get important career advice from seasoned professionals about career paths and improving interview skills.

ASSE offers onsite seminars about the principles of leadership; its Foundation offers leadership grants to "help safety professionals expand their knowledge and advance their education." Local chapters include "safety leadership" as PDC topics almost as frequently as they include the word "excellence." There is no end in sight to ASSE's interest in leadership.

Our sister organization, the American Society for Engineering Education (ASEE), has created an entire division named the "Engineering Leadership Development Division" (LEAD) the purposes of which are to address changes at the university level (promoting courses that stress ethics and leadership, for example) or fostering concordance between academics and industry. A fairly steady stream of papers address the observed disparity between academics who say they produce graduates with leadership and ethics training and industry, which says these skills are not strong among new hires in engineering. As with ASSE, there is no end in sight for the discussion of leadership and ethics.

Public institutions have embraced leadership as well. The National Institute for Occupational Safety and Health (NIOSH) follows a similar trend set by the Centers for Disease Control and Prevention (CDC). CDC University's School of Leadership and Management Development began the Initiative for Leadership Enhancement and Development, or ILEAD, in 2008. This program was designed to provide opportunities for CDC management to develop leadership competencies necessary for guiding the agency. Some leadership competencies or key behaviors include accountability, cultural awareness, emotional intelligence, performance management, and personal leadership, among others (CDC, 2017).

But nobody seems to be talking about what to do when the management, from board level to the department boss, simply doesn't care that midstream managers develop leaders. Can a midstream safety professional create a culture where values affect every decision at a fundamental level, particularly for the crafts workers who are on the front lines of safety every day? Can a project engineer who is often charged with safety responsibilities do the same thing away from the corporate office?

Left in the lurch, then, what about looking to academics for guidance of teaching about leadership or ethics? Have academics considered how to create a culture of values-based behavior when upper management is disinterested? In a word, no. As it turns out, academics aren't even sure how to teach ethics, much less leadership. Indeed, as we pointed out a year ago in a paper presented to an engineering group:

> It is fairly recognized in academic circles that ABET (formerly and perhaps more descriptively called the Accreditation Board for Engineering and Technology) and its sister accrediting agency for the related sciences including safety management, ASAC (Applied Science Accreditation Commission) are themselves confused, at least in our opinions, about how much to teach ethics and how to measure it. As Barry and Ohland (2012) suggest, among other authors who have comments on this topic, "Even after multiple cycles of ABET accreditation, many engineering programs are unsure of how much curriculum content is needed to meet the requirements of ABET's Criterion 3.f" [Note: while ABET itself prefers the use of performance-based objectives in subparts a-k which it requires for accredited schools, "an *understanding* [emphasis added] of professional ethical responsibility" (part 3.f) is sufficient.]
>
> Barry and Ohland conclude, in part, that "The primary impact of this study is that it dispels the myth that more courses or course time on professionalism and ethics will necessarily lead to positive engineering education outcomes. Much of the impetus to add more curriculum content results from a lack of conclusive feedback during ABET

> accreditation visits." And somehow, we engineering and safety educators must figure how to measure a student's understanding, and also determine how much time-on-task to provide, even though such studies are inconclusive and ABET site visitors are not much help, at least for the ethics part.
>
> We suspect that it isn't going to be any easier to teach about leadership and values than it has been to teach about ethics (Winn and Slagley, 2016).

Leader Development in a Depleted Environment

Absent guidance from professional organizations or academics, we are proposing a model called the "Leader Development in a Depleted Environment" (LDDE) for use downstream in the management structure. While the term "depleted" may connote many things, it is limited here to management that is dismissive, disinterested, hostile or simply unaware of motivated junior leaders' desire or ability to foster leader development and promote values-based behaviors at lower management echelons.

The LDDE model begins with the expression of a set of beliefs about individuals and their duty to each other with a particular reference to safety and health. This means simply that employees at any level must be willing to act ethically even when if nobody is watching. These are "values-in-use" actions, and not "values artifact" actions: They are based on trust and honest caring for subordinates and self, not doing the right thing only when the spotlight is on them; last year, we said:

> Authentic leaders can exist at all levels of an organization; a forklift driver does not need the title "CEO" or "foreman" to manifest his actual values in voluntarily instructing a new employee in the virtues of inspecting the truck's brakes every day whether the rules require it or not. When a safety professional thinks a behavior is manifested because it's the right thing to do, it reflects authentic leadership and not just colorful corporate literature or fancy business cards.
>
> Organizational research conducted over the past twenty years by Schein (1992, 2004) or Ott (1989) suggests that any mismatch between espoused values and values-in-use causes morale problems because employees see that, "what we say we do is not what we actually do." In fact, as Hannah (2007) points out, authentic leaders are pretty much always under some sort of scrutiny and things will quickly "come crashing down should an [authentic] leader lapse or be uncovered as pseudo-authentic." The once-authentic leader has a difficult time recovering.
>
> Does it matter if leaders say one thing and do another thing? In safety, it does.
>
> Project engineers often end up managing all or part of the safety function. Safety professionals coordinate carefully with the project engineer on material selection, equipment purchases, scheduling, pre-engineered designs, discipline and especially modeling safe behavior on the job. Any inconsistency between these coordinating leaders' messages can have devastating consequences. If words and actions are

incongruent, subordinates will see through the inconsistent behavior, and worst of all, people can die (Winn and Slagley, 2016).

Step 1: The Place of an Honor Code

The simplest place to begin the LDDE is for the foreman or department lead to say, "Here is what we believe in." An honor code is a tool for both accountability and feedback. Even without a larger, formalized ecosystem of leader development, small groups can benefit from drawing their own line in the sand for what is, and what is not, acceptable behavior.

One example of a simple but vibrant code of behavior is West Point's, as seen in Figure 1 below:

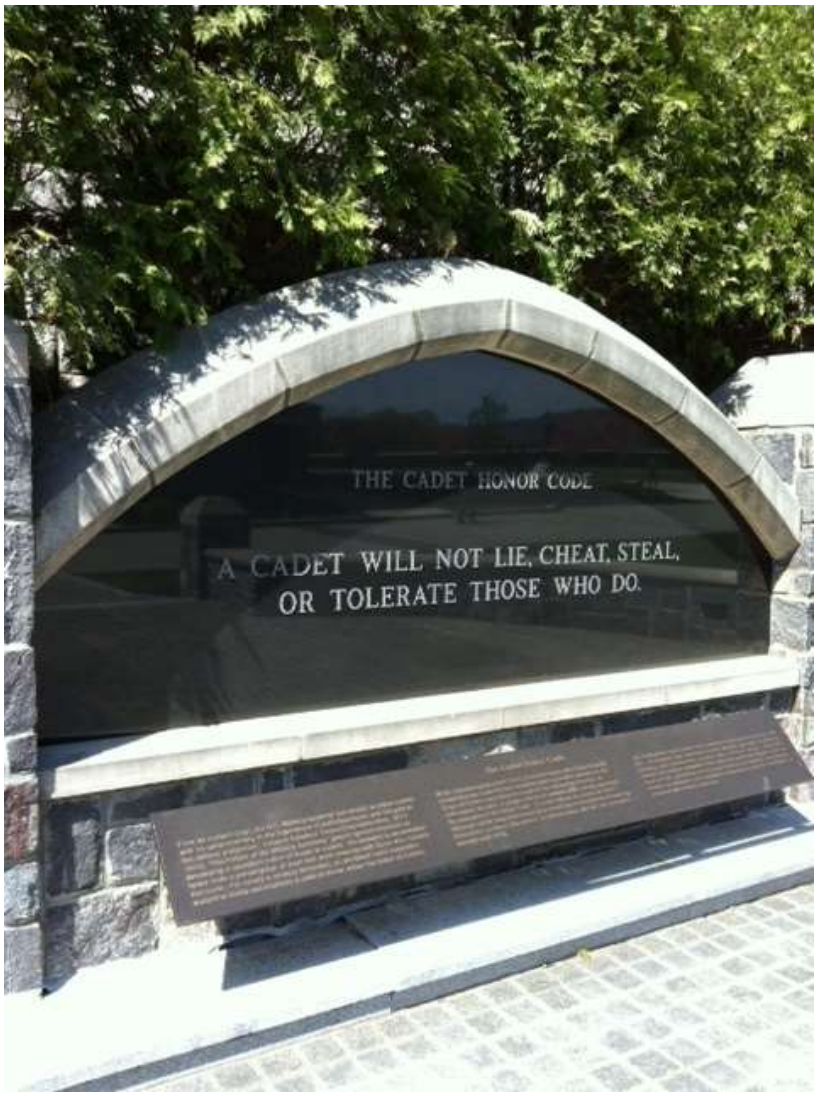

Figure 1. West Point Cadet Honor Code. (Photo credit: G. Winn (2016))

Every cadet memorizes this thirteen-word message as early as their first day: A Cadet Will Not Lie, Cheat, Steal, or Tolerate Those Who Do." The code represents an institutional aspiration that trust is unassailable among members of our group, and that those who break this trust are not welcome. A small-group leader can surely have more influence and more immediate impact on his or her small work group than upon a large organization; the impact of stating a simple honor code is real and genuine when presented by a motivated junior leader face to face; at the department level, these discussions are received as honest expressions of what we believe and how to act.

A small-team leader can have a ceremony to adopt the honor code, or members can simply nod in agreement; from this point forward, the group will be expecting values-congruent behavior. The person's word is an indelible bond if they say it is so. Infractions of the code can be considered at the same level. People who don't comply are ostracized in ways determined by the peer group, not some corporate policy statement.

Elsewhere we have said:

> Is there a need for an honor code in a company without a complete ecosystem to support values-in-use? We say "yes" because safety leaders and engineers can never, ever, take employee trust and the public safety lightly. When people can die on your watch, and when there are no do-overs, our future leaders must get it right the first time. In turn, employees should be trusted to do the same thing.
>
> Even when nobody is looking.
>
> *Especially* when nobody is looking.
>
> A dishonest worker may say that the electric power is turned off before telling another worker that she can change a breaker in a service panel. A dishonest supervisor can say he has performed a walk-through of morning conditions on the construction site and not bother to inspect the new utility excavation, allowing a highlift to back into it. When people can be injured or even die on your watch, there needs to be unassailable trust at every level, without asking, with nobody looking. Your subordinates must trust that you do what you say, and vice versa.
>
> Having an honor code is a public expression of the desire to try to do the right thing at all times, under all conditions, and not tolerating those who will equivocate. This thirteen-word code can be easily adapted to use in organizational materials, such as into new-hire orientation, and it can easily be knitted into real stories [shared at the water cooler or the tailgate.] (Winn, 2016).

An honor code can be modified to fit the circumstances of place, industry, and certainly culture. To say, "Employees of the welding department do not lie, cheat, steal or tolerate those who do," is enough to start.

Is there a generational conflict possible? At first, we thought that Millennials would think an honor code would be corny, but we were wrong. Although we don't have hard data on this observation, we note that, when discussing the matter over a period of four years now, graduate

students seem to think the honor code is a good idea. "Nobody ever talks about this but they should," they will say.

Our data shows Millennial graduate students who were surveyed across three similar academic institutions are altruistic but have increasingly less practical work experience when they enter their chosen career field (Winn, Williams and Heafey, 2013). Similar findings are seen among Howe and Strauss's (2004) seven important characteristics of Millennials that differentiate them from Baby Boomers or Generation Xers:

- They are **confident and optimistic;** they are perhaps over-confident sometimes and sometimes they boast.
- They see themselves as **achievers;** at school, they go to class; they have pretty good moral compasses.
- They offer and hold **conventional values systems** which are similar to, or are more conservative than, their parents, many of whom openly rebelled in the 1960s at their own parents' value systems.

So, in a general way, Millennials seem to appreciate the notion that self-awareness and having a foundation of morality is the first step toward leader development. The opportunity is to take advantage of this generation's motivation, altruism and hope. An honor code is the place to start, even at the department level. It only takes a sincere and values-congruent junior leader to take charge. There is nothing magic or compelling about the code we have proposed here. The idea is more important than the words.

Step 2: *Be–Know–Do*: A Model for Leadership at Any Level

The next part of our model has been used extensively in private industry and the military. At first glance, one of its authors would unlikely to be selected as a speaker for a safety symposium on leadership; Ms. Francis Hesselbein, who turned 100 in 2015. She rose from being a stay-at-home mom in Western Pennsylvania running a Girl Scout troop to ,running the entire Girl Scout organization, to be the woman who 30 years later, was named Fortune Magazine called the "Best Non-Profit Manager In America." She is Chair of the Peter F. Drucker Foundation for Nonprofit Management and Editor in Chief of *Leader to Leader*, the best-known journal about leadership in the U.S., if not the world.

Ms. Hesselbein' s contribution to the study of leader development centers on this single quote for which she is renowned, "Leadership is more about what a leader is than what a leader does." Essentially, leadership is about *character* more than anything else. In 2002, she summarized how to make changes in leader development if the bosses seem uninterested or if we are not at the top [of the management chain]:

> You can begin wherever you are, whatever your job. You can bring new insight, new leadership to your team, your group. It is the leader's job to identify the critical issues in which his or her organization [or department] can make a difference, then to build effective partnerships based on mission, innovation and diversity to address those issues (2002).

The second author of *Be–Know–Do* is Eric Shinseki, who served as Army Chief of Staff and the Secretary of Veterans Affairs under President Barack Obama. Following the Army tradition of not developing leaders in the traditional top-down style of corporate America, but instead creating leaders from the bottom up in a dispersed way, General Shinseki shows that the U.S Army ranks as a world-class corporation for leader development. But how it does it is largely unheralded, except by those with firsthand experience. (For a more complete discussion of how the military creates leaders, see Winn and Banks in *Professional Safety*, January, 2014).

Perhaps surprising to most readers, the U.S. Army trains its junior leaders to take the initiative, rather than wait on orders and lose the initiative. Preparing to do that is a journey that requires self-awareness, a strong sense of selflessness, and personal courage when circumstances call for it. As it turns out, the *Be–Know–Do* model is a perfect model for adoption on the civilian side, and particularly in safety. When minutes count, the subordinate must be right the first time. An employee who is motivated to stop an unsafe act simply because it is values congruent is an authentic leader in his or her own right.

Rather than ask this junior leader to wait on a decision from an upper-management structure th may that may be unaware, disconnected from the day-to-day operation, or, worse, disinterested, the subordinate must be prepared to act. This is precisely why the U.S. Army's middle managers, its non-commissioned officers and lieutenants, are far more critical to mission success that its colonels and generals. Everyone will readily admit as much.

For example, Peter Drucker wholeheartedly endorsed this approach for industry and nonprofits when he reviewed the seminal book by Hesselbein and Shinseki which outlines the *Be–Know–Do* process, "The Army trains and develops more leaders than all other institutions altogether—and with a lower casualty rate. *Be–Know–Do* shows how this is being done, and how it can be adapted by the nonmilitary: businesses, colleges and universities, nonprofits, and churches."
A summary of *Be–Know–Do* is shown in Figure 2 below.

***Be* the ideal and Be proud of it**. Personally represent the company's core values and standards, even if other people don't. Be the person with integrity and a duty to protect less experienced workers. Exemplify the highest ideals and live them at work and at home through your department's honor code. Don't be afraid to do what's right.

***Know* what you are supposed to do** and when you are supposed to do it. Be trained and seek regular competency and skill updates. Be aware of trends in safety compliance and research. Acquire the right technical skills to lead. Know what motivates your direct reports and how your own culture operates. Know where the power centers are, and who are the gatekeepers to information.

***Do* the right thing each time and every time**. Have the interpersonal and communications skills to get your message across accurately and efficiently. Follow the rules and procedures, even when you're by yourself. Don't be that guy who only acts right when his superiors were watching. Junior leaders don't need upper management's permission to show backbone and character.

Figure 2. The *Be–Know–Do* Model as Part of the LDDE.

Step 3: Storytelling, Non-Material Rewards and Personal Courage

Consider this: break rooms, locker rooms, and board rooms are equally useful places to tell stories with a solid learning message. Telling a story about somebody we know who had a close call can be a powerful motivator, but story telling should follow a pattern in order not to be strictly didactic. Stories should be told with these rules:

1. The story must not be directly in response to an injury that just happened but rather a close call.
2. The story must not be condescending or heavy handed.
3. The storyteller must not name names unless the story is a bit funny. No one wants to be the butt of a safety joke.
4. The storyteller can be a craft worker or manager, or even the safety professional. Credibility is most important.
5. The story is most often about a person who *discovered* the right thing, even if he didn't actually *do it* at the time.
6. Stories must be true, plain and simple.

Dr. Winn has used this particular story in class for years because it is about college age-workers and values-not-in-use. Even after years of telling it, the effect is the same.

> Between my freshman and sophomore year at college, my crane-crew buddy was supposed to walk out on these 22-foot-tall concrete sewer pipes standing on end– sometimes wet with rain and always coated with grease to prevent concrete from sticking to the steel end-ring. My buddy made it to the end of summer before he fell backward into a pipe and broke a dozen bones, including his spine. We couldn't even find him for over an hour. Nobody had done any training, nobody did a hazard analysis, and nobody provided a walk board. The company had lots of safety posters and had a safety coordinator, but my buddy nevertheless graduated from College in a wheelchair because there were no values-in-use that day.

Steve Denning writes for *Forbes* online about radical management and innovation. He believes just as much as we about the utility of storytelling to pass along values-in-use of the organization in ways that even a brilliantly written mission statement about core values just can't put across. These are "dead artifacts" of the organization, as he says:

- Storytelling is more than an essential set of tools to get things done: It's a way for leader– wherever they may sit–to embody the change they seek. Rather than merely advocating and counter-advocating propositional arguments, which lead to more arguments, leaders establish credibility and authenticity through telling the stories that they are living.

- Storytelling translates dry and abstract numbers into compelling pictures of a leader's goals.

- Storytelling is often the best way for leaders to communicate with people they are leading– communicating who you are, enhancing the brand, transmitting values.

- Charts leave listeners bemused. Prose remains unread. Dialogue is just too laborious and slow.

- By contrast, conventional management focuses on lifeless elements–mission statements, formal strategies, programs, procedures, processes, systems, budgets, assets–the dead artifacts of the organization (Denning, 2011).

What we are trying to do through storytelling is to teach about personal responsibility or a duty to intervene; that is, acting on the very values we have agreed upon when we adopted an honor code. These kinds of stories are remembered much longer than preaching, corporate newsletters or some silly, plastic values card. Plus, stories are easy to retell. The idea is to make values-in-use automatic. Can storytelling by a mid-level junior leader serve to change the culture of his local organization? Absolutely.

Next, we come to rewards for appropriate behavior and the paradoxical value of *non-material rewards*. What can a midstream leader do to reinforce values-in-use without support from above and perhaps without any real budget anyway? The answer is: probably a lot.

The research literature shows that there are two kinds of reinforcements for appropriate behavior. One is *material rewards,* such as money or a tool picked out of a Grainger catalog, for example. Despite some serious research to the contrary, material rewards continue to be popular with safety leaders because it looks like they are doing something positive. But among drawbacks to material rewards are: hiding injuries; the disappearance of appropriate behavior once the incentive is used up; and factionalism when a single reward is spread far too thin among potential qualified recipients.

Research suggests that the second type of reward, *non-material rewards* lead to longer lasting behavior change and require no budget beyond creative thinking. In a paper published in 2004 about the use of non-material rewards in the construction industry, it was noted that "natural incentives, which we have defined as non-durable behavior reinforcers, are used to modify employee safety behaviors. Natural reinforcers include the use of:

- performance feedback (coaching, for example) to reinforce appropriate behavior;
- employee-determined work schedules; and
- independent work, resulting in less frequent visits by the safety manager, so long as safe behavior continues (Winn, Seaman and Baldwin, 2004).

The work was summarized as saying, "Performance feedback about individual employee safety performance indicates an effective alternative to the use of disciplinary action or material rewards to encourage compliance with safety rules," and we concluded that, "The crafts people in the study sample actually improved their behavior in response to natural incentives," even though in conversation, they said they preferred material incentives such as money. In real life, craft workers preferred responsibility and involvement over money.

This study also looked at worker satisfaction with management leadership in offering natural incentives. "In embedded question 3 (QE3), workers were asked if they wanted to be even more involved in safety inspections than they had been in the past. Ninety-one percent responded that they wanted more involvement. In the final embedded question (QE4), fully 88% of respondents said that they felt management was fully committed to reducing fall hazards. Each of these questions significantly exceed ($p < .010$) the hypothesized level of 50% and were judged to be accurate indicators of worker satisfaction with the safety program." This suggests that the use of reinforcements for safe behavior is not only preferred under these test conditions by craft workers, but that the same workers felt its leaders were committed, and that they wanted to be more involved in their own safety in the future.

These findings are not unique at all. Once the junior safety leader realizes that material rewards (the traditional incentive for safe behavior) can be effectively replaced with what amounts to leadership itself as a natural incentive; that is, responsibility, involvement and work direction, workers are eager to be more involved and will trust their leaders' motives.

Finally, we come to uses of **personal courage** to demonstrate, when all else fails, that the junior leader must act values-congruent at all times, even when his own safety may be at stake. The junior leader may jeopardize his own career or safety but he takes action based first on selfless service to subordinates. The board room may never know about the junior leader's actions, but the break room and the locker room will know. We are not talking about heroics or superhuman courage—only the courage to act according to those values we established earlier.

> The board room will never know about the junior leader's actions that day, but the ***break room*** and the ***locker room*** will know.
>
> …and that's what matters.

Almost everyone has a story of a "regular Joe" who took extraordinary risks to his career or his own safety. We all know about fictitious Atticus Finch who jeopardized his law career to defend the African-American Tom Robinson in 1930s Alabama. This metaphor is apt here because Atticus Finch represents the challenges of morality when faced with challenge of his career. Finch displayed the kind of personal courage that is easily understood by crafts people, but then, maybe a lawyer is somewhat removed from everyday line work. So we dig deeper, as anyone can.

Mark McGeehan, a local football player from Wheeling, West Virginia, was a B-52 pilot in the early 1990s, when huge air shows were all the rage in the U.S. McGeehan refused to allow his subordinates to fly with another pilot, McGeehan's superior, Bud Holland. Holland was a pilot

had shown reckless disregard for standard flight procedures during low flights and risked his crew repeatedly after using these heroics in Viet Nam. On the day of an air show, with dozens of dignitaries in attendance, Holland made a few exceedingly low passes over the base. A chilling video was taken as Holland's plane passed over the air field close the asphalt, and circled around at an angle that exceeded the recommended design limits of the aircraft. His B-52 crashed in full view of the congressmen in attendance, the Secretary of the Air Force, and sadly, McGeehan's own family. Still, McGeehan saved the lives of each of the crew members he pointedly forbade to fly with Holland. McGeehan displayed an incredible kind of values-congruent personal courage that cost him his life.Maybe even Air Force pilots and huge aircraft don't resonate with the crafts people with whom the junior leader is trying to make a point about the need for personal courage when things go really bad.

Consider the case of our own friend close to home, a coal miner named George Maxwell. George had responded in 1994 to a mine's roof fall as part of his duties as a mine rescue expert:

> Another hour passed and everyone knew that time was running out for the trapped miners. George decided he should act and so he entered the mine on his own accord and out of sight of the state officials who had gathered there.
>
> Working near a recent roof fall is a terrifying condition that only a few miners ever experience. Tons of rock up to five feet thick and a hundred feet long come crashing down unexpectedly, flattening heavy equipment and people in its path. The number one rule in all of mining has always been: don't work under unsupported roof. And that's just what George had to do as he crawled prone, inching his way over the top of rocks and debris on the way to his fellow miners, all within a 14 to 16 inch head space. He had to work for an hour under unsupported top if he was going to rescue his fellow employees.
>
> And as you'd expect, George got to the miners with enough water, a few air packs and now, with a radio to confirm their location, and so outside rescuer crews could pick up the pace of the rescue and use heavy equipment until they approached within a few feet. All of the rescued miners, plus George, were standing outside in the sun in about 24 hours (Winn, 2016).

George didn't have to attempt this unconventional rescue, but his near-three decades in the mines had made him the real leader among his peers, without a fancy title and displaying calming, low-key leadership that was almost unknown to his superiors. He displayed extraordinary personal courage at the risk of his own life.

"Almost unknown to his superiors?" That's just the way George liked it.

What a coal miner like George ***does*** about safety speaks louder than what he ***says***.

… and that's authentic leadership

Summary

The literature on leader development is so large that it generates millions of Google search hits. The topics of leadership and leader development dominate conferences of key professional societies and even some public institutions. Despite the interest, culture change and leader development universally seems to be a top-down affair, with CEOS in corner offices deciding on mission and culture, then printing colorful advertisements heralding their company's move to core values.

In this paper, we propose a simple model we call the LDDE; it is open to improvisation by the very people who practice it; it doesn't need fancy brochures to foster leader development. We have scoured the available literature and determined that, under favorable circumstances, leader development and culture change can also happen at lower levels that are removed from the overt power structure. Even when upper management is dismissive, disinterested or merely unaware, the motivated junior leader can change culture on his or her own, using this model as a guide and modifying it as local needs warrant.

While having a local honor code might seem out of fashion for Millennials, these have been in place and changing lives for decades at our nation's military institutions. So why not have them industry, too? After all, an honor code may be as simple as the thirteen words at West Point or the Virginia Military Institute, and is essentially the same as the code of ethics for ASSE or the National Society for Professional Engineers. And it is encouraging to note that the Millennial generation seems sufficiently altruistic and motivated to accept such a code of conduct, particularly when lives may be at stake.

The structure provided by Hesselbein and Shinseki known as *Be–Know–Do* is the glue that underpins the U.S Army's entire leader development program because it anticipates initiative and leadership from mid-level soldiers who, if sufficiently preferred, can act in time to prevent losses. Remember the whole point is that this kind of preparation and training allows, even encourages, mid-level soldiers to act on their own to save time and human capital. How different is using this structure for training mid-stream soldiers to be leaders in small groups from training mid-stream crafts workers who often work independently toward similar objectives for their respective organizations?

Storytelling clarifies important messages in informal ways, and the best stories are those generated by the workers themselves. There is an authenticity to a story told in the break room that has credibility with crafts people, and the ability to alter the local safety culture far beyond the leadership charts and mission graphs in some corporate annual report. When a junior leader chooses natural rewards over material rewards, that leader is more likely to further change a local culture with long-lasting effects.

Finally, those craftspeople who display personal courage out of the view of upper management sometimes want it that way. Their strength of character—what they do speaks louder than what they say—makes them a local icon, a local hero, even if it's just among departmental regulars. But then, isn't that the entire point: to decentralize safety responsibilities?

Of course, while the model we present here for leader development and culture change under less than ideal conditions is based on only limited empirical research, the model itself needs a field test to clarify these suggestions.

Bibliography

Barry, B. and Ohland, M. 2012. "ABET Criterion 3.f: How Much Curriculum Content Is Enough?" *Science and Engineering Ethics* 18 (2):369-392 (2012)

Center for Disease Control (CDC). 2017. 01/18/201. "School of Leadership and Management Development." *CDC Connects*. (Retrieved 1/18/2017) (http://intranet.cdc.gov/od/hcrmo/CDCU/schools/ilead.shtml.)

Denning, Steve. 2011. *The Leader's Guide to Storytelling: Mastering the Art & Discipline of Business Narrative*, San Francisco: Jossey-Bass.

Hesselbein, F., and Shinseki, E. K. 2004. *Be, Know, Do: Leadership the Army Way: Adapted from the Official Army Leadership Manual.* San Francisco, CA: Jossey-Bass

Hannah, S. T 2010. "The Authentic High Impact Leader." In *Leadership Lessons **from** West Point*. New York:Jossey-Bass.

Hesselbein, F. 2002. *Leader to Leader*. San Francisco: Jossey-Bass.

Howe, N., & Strauss, W. 2004. *Millennials Rising: The Next Great Generation.* 3rd ed. New York: Random House

Ott, J. S. 1989. *The Organizational Culture Perspective.* Chicago: Dorsey Press.

Schein, E. H. 2004. *Organizational Culture and Leadership.* San Francisco: Jossey-Bass.

Winn, G.L. 2016. Practical *Leadership Skills for Safety Professionals and Project Engineers*. New York: CRC Press.

Winn, G.L. and Banks, B.B. "Safety Leadership: Insights from Military Research." *Professional Safety*, January, 2014, pp. 33-38.

Winn, G.L., Williams, A. and Heafey, M. 2013. "A Research-Based Curriculum in Leadership, Ethics and Protocol for Safety Management and Engineering Students." *Safety 2013: Proceedings of the 2013 Professional Development Conference, American Society for Safety Engineers,* June 24-27, Las Vegas, NV

Winn, G.L., Seaman, B. And Baldwin, J.C. 2004. "Fall Protection Incentives in the Construction Industry: Literature review and Field Study." *International Journal of Occupational Safety and Ergonomics.* No. 1, Vol. 10, p. 5-11.

Winn, G.L. and Slagley, J. R. 2016. "Values-Congruent vs. Values-Artifact Leadership: How

Are They Different?" *Proceedings of the American Society for Engineering Education Annual Conference.* New Orleans, LA, 2016.

Acknowledgement

The authors would like to express their appreciation to CRC/Taylor and Francis Group, and in particular to Ms. Cindy Carelli, for extending to us permission to cite key passages in this manuscript from the book, *Practical Leadership for Safety Professionals and Project Engineers,* 2016.