

PRACTICAL LEADERSHIP SKILLS **FOR** SAFETY PROFESSIONALS **AND** PROJECT ENGINEERS



Gary L. Winn, PhD



CRC Press
Taylor & Francis Group

**PRACTICAL LEADERSHIP
SKILLS FOR SAFETY
PROFESSIONALS AND
PROJECT ENGINEERS**

PRACTICAL LEADERSHIP SKILLS FOR SAFETY PROFESSIONALS AND PROJECT ENGINEERS

Gary L. Winn, PhD



CRC Press

Taylor & Francis Group

Boca Raton London New York

CRC Press is an imprint of the
Taylor & Francis Group, an **informa** business

CRC Press
Taylor & Francis Group
6000 Broken Sound Parkway NW, Suite 300
Boca Raton, FL 33487-2742

© 2016 by Taylor & Francis Group, LLC
CRC Press is an imprint of Taylor & Francis Group, an Informa business

No claim to original U.S. Government works
Version Date: 20160317

International Standard Book Number-13: 978-1-4987-5824-6 (eBook - PDF)

This book contains information obtained from authentic and highly regarded sources. Reasonable efforts have been made to publish reliable data and information, but the author and publisher cannot assume responsibility for the validity of all materials or the consequences of their use. The authors and publishers have attempted to trace the copyright holders of all material reproduced in this publication and apologize to copyright holders if permission to publish in this form has not been obtained. If any copyright material has not been acknowledged please write and let us know so we may rectify in any future reprint.

Except as permitted under U.S. Copyright Law, no part of this book may be reprinted, reproduced, transmitted, or utilized in any form by any electronic, mechanical, or other means, now known or hereafter invented, including photocopying, microfilming, and recording, or in any information storage or retrieval system, without written permission from the publishers.

For permission to photocopy or use material electronically from this work, please access www.copyright.com (<http://www.copyright.com/>) or contact the Copyright Clearance Center, Inc. (CCC), 222 Rosewood Drive, Danvers, MA 01923, 978-750-8400. CCC is a not-for-profit organization that provides licenses and registration for a variety of users. For organizations that have been granted a photocopy license by the CCC, a separate system of payment has been arranged.

Trademark Notice: Product or corporate names may be trademarks or registered trademarks, and are used only for identification and explanation without intent to infringe.

Visit the Taylor & Francis Web site at
<http://www.taylorandfrancis.com>

and the CRC Press Web site at
<http://www.crcpress.com>

Contents

A personal message to the safety and engineering professionals of tomorrow	xi
Top companies want leaders more than anything else	xv
Preface.....	xix
Acknowledgments	xxv
The Editorial Team.....	xxvii
Introduction	xxix

Section I: Choosing personal development

Chapter 1 Why leadership and why now?	3
The “Millennial generation” is a mix of challenge and opportunity	4
Millennials: Who better to have as a safety professional or project engineer?	7
Shouldn’t we also want to move the needle toward values-based safety and leadership?	9
Which should a junior leader use: Data or stories?.....	14
A clear distinction would be good about now	16
Are there actual data to suggest the need to study leadership, ethics, and protocol among our future professionals, particularly the Millennials?	18
It’s time for our young professionals to go to the next level: From managing to leading	23
Do others recognize the need for change? Indeed, they do	28
And then there is the spit cup.....	30
Chapter 2 Self-discovery comes first.....	33
Dr. Winn’s 20 maxims about professional life: A first step in self-awareness	37
Dr. Winn’s PPDP: A reflective plan.....	44

Chapter 3 Further becoming a professional: It takes effort outside the classroom.....	47
What does it mean to be a professional?.....	47
A professional often has an individualized reading list: It's good for a dinner invitation and can even help secure a business relationship	51
Attending your first PDC.....	53
Journals and dailies	55
Books: The mainstay of an educated dinner guest	56
Chapter 4 Further becoming a professional	63
Dr. Winn's 50-plus time-tested rules for professional success:	
Managing your time and office	63
Make the quick transition from student to professional:	
Five easy rules.....	71
Leading after managing: It's the future.....	72
What others say about the importance of leadership	74
Here are some thoughts about leaders you may have had in your life....	77
Assigned leaders vs. emergent leaders	77
Leaders, the truly emergent ones, must begin by managing well.....	78
 Section II: Understanding leadership	
 Chapter 5 Core values underlie leadership.....	83
An organization's core values aren't assigned to employees by a committee: They come from individuals who have examined their own motivations	83
Core values.....	83
Why do we need core values?	84
Making a decision to behave congruent with one's central values: What triggers it?	90
 Chapter 6 Culture, safety, and engineering	93
 Chapter 7 How we can change organizational values and why it's important.....	103
What happens when there is resistance to change? Introducing the James-Lange theory	110
 Chapter 8 A values-based leadership model for use in depleted environments.....	113
Establish an honor code	114
Be, Know, Do.....	118

Storytelling, nonmaterial rewards, and personal courage 120

Getting the depleted-environment model to work..... 126

Chapter 9 Case studies in ethical considerations 129

Ethics, morals, and values: How are they different?..... 131

The leading professional organizations and their codes of ethics 136

A young professional’s generalized code of conduct: A set of ethical canons you can use at the department level 139

Plagiarism and consequences for professionals..... 140

What’s wrong with just Googling it? 142

Are morals relative? A dialogue for today’s professionals 143

Chapter 10 Crisis and noncrisis leadership models..... 149

Why should we study how the military teaches leadership?..... 149

 Reason no. 1: The experts say we should pay attention 149

 Reason no. 2: At the core, we have identical missions 153

 Reason no. 3: Military universities doing it best have been doing it a long time 154

 Reason no. 4: When a crisis occurs, we have to be right the first time..... 156

Crisis and noncrisis leaders are different..... 156

 Case 1: GM ignition switch..... 157

 Case 2: An officer protects his men 158

What is a Level 1 crisis and can it be survived? 158

What about a Level 2 crisis? 160

A Level 3 crisis can be survived with the right leadership 160

Noncrisis leadership model no. 1: Servant leadership..... 163

 Pillar 1: A servant leader must become a person of character..... 165

 Pillar 2: A servant leader puts people first 166

 Pillar 3: Servant leaders must become skilled communicators 166

 Pillar 4: The servant leader is a compassionate collaborator 167

 Pillar 5: The servant leader shows foresight..... 167

 Pillar 6: A servant leader is a “systems thinker” 168

 Pillar 7: Servant leaders are granted moral authority only by their subordinates 169

Noncrisis leadership model no. 2: Level 5 leadership 172

 Level 1: Highly capable leader..... 173

 Level 2: Contributing team member..... 174

 Level 3: Competent manager 174

 Level 4: Effective leader 174

 Level 5: The Level 5 executive 174

Summary of Collins’ concepts and their use in safety and engineering 185

Noncrisis leadership: The contributions of Zohar, Barling, and Kelloway	186
Crisis leadership model no. 1: “In Extremis” leadership	191
Case study: “Horse sense” in a mining emergency	196
Summary of the characteristics of extremis leaders	200

Section III: Applying leadership fundamentals

Chapter 11 What is “toxic leadership?”	203
Advice for the fresh graduate: Don’t shout out the answer in your first meeting.....	204

Chapter 12 Experiential training: It’s not what we’ve been teaching in class

teaching in class	209
What is experiential training anyway and is it relevant to safety and engineering?.....	209
Research and theoretical background	210
Case study no. 1: Comparing the Lovelidge mine and the Powhattan mine fire incidents	212
Case study no. 2: Training soldiers to maximize realism— the Abrams tank study.....	216
Case study no. 3: Game-based experiential training with the Abrams tank study and with individual soldiers	219
What about training Millennials?	221
Developing a modified model for experiential training.....	222
Summary of the modified model of experiential training	226

Chapter 13 How authentic leaders handle the death event

Are young professionals or staff members at personal risk today?	230
--	-----

Chapter 14 Stress and morale challenges for leaders in safety and engineering

and engineering	237
The effects of stress are silent, debilitating, and long lasting.....	237
Studying the effects of stress on the Buffalo Police Force.....	240
Psychological responses to stress and managing it.....	241
A leader’s peer mentoring can lead to grit and persistence in followers	244
Building coping strategies to reduce stress and build resilience.....	246
Fostering resilience against stress	247
Good organizational morale is a force multiplier	251
An important update about crisis and noncrisis leader development in microenvironments or depleted environments	255

Chapter 15 Gender in safety and engineering..... 259
 Gender observations from the frontlines 264
 Summary of research associated with gender issues 270

**Chapter 16 How authentic leaders handle the issue of discipline
 for difficult employees..... 273**
 Case study: The drill press operator 274
 Summary of the issue of discipline 279

Section IV: Fine-tuning leadership applications

**Chapter 17 Organizational protocol for safety and engineering
 professionals: A brief introduction..... 283**
 Dressing the part..... 284
 Office communication and behavior 288
 Some things to think about concerning business communications ... 289
 Some things to know about office behavior 290
 Some things to know about making introductions 291
 Protocol at your first engineering or safety conference 293
 What about presenting a conference paper yourself? 293
 International nuance for young professionals 294
 Kuwait..... 296
 Thailand..... 297
 India 300
 Nigeria 301
 Angola..... 302
 Summary of rules about international travel..... 304
 Business symbolism: Honoring the American flag 304
 A bit about funerals 307
 Summary of office protocol and procedures 308

Chapter 18 Summary of this book’s key concepts 309
 Entering a profession..... 309
 Becoming a leader..... 310

Bibliography 313

A personal message to the safety and engineering professionals of tomorrow



Carl W. Heinlein is the past president of the Board of Certified Safety Professionals and was recently honored by the National Safety Council (NSC) with a *Distinguished Service to Safety* award at the NSC's 100th anniversary convention. Carl works as an insurance consultant with ACIG Insurance and worked earlier as safety and health director for Associated General Contractors (AGC) of America in Washington, DC. He is currently chair of the West Virginia University's Safety Management Graduate Program Visiting Committee, where his

years of experience and knowledge have greatly benefitted the graduate students at WVU.

As I look back on the 20 years of my environmental safety and health (EHS) career journey, I am aware that I am still surrounded by some of my original educators, colleagues, mentors, plus union friends and management alike. If there is one consistent theme expressed by these individuals over my two decades in safety, it is that each has urged me to look beyond the traditional compliance-based programs and beyond merely management of people and go to leadership and leader development. I took that advice to heart, and as a direct result, I have been asked to be a leader and a trusted voice for both management and labor and for professional organizations. I take this responsibility and obligation very seriously.

My mentors and friends have been correct in their advice about moving away from simply management and toward

leadership. Management is the theme of yesterday and leadership is the theme of tomorrow. Students and young professionals are justified to think that big change is coming. This is true for safety professionals and young engineers as well.

For example, only recently, we have received some great news about our profession. A survey has shown that the EHS profession is one of the strongest career choices for the next decade, with two jobs created for every college graduate. Even if the number of graduates in the field expands rapidly, the EHS profession is still going to fall far short of filling all of the open positions, and that trend will continue for at least another decade. And, while the EHS profession is a rapidly growing career path with opportunities opening every day, engineering continues to fill 5 or 6 of *Wall Street Journal's* top 10 career fields year after year.

This book speaks to each group of young professionals, safety professionals, and engineers. Why? My experience has shown me that their jobs are different, but greatly intertwined. What one does influences the success of the other. As you'll read soon, both groups of young professionals are involved in decisions where people's lives are at stake.

As the EHS profession continues to expand rapidly in opportunities, so does it expand in expectations. More than other fields, all current and future EHS professionals will be asked to be generalists with an extremely broad base of skills. EHS professionals, more than people in most other career paths, must interact with labor, management, shipping, receiving, operations, and with the crafts and the general public. They will interact with the news and many types of media; they will interact with corporate leaders and academics. They will network extensively in and out of their own location. They will travel broadly. These young professionals must be able to grow and control their career in a predictable way and must learn to adjust rapidly.

A term that is commonly overused, yet holds very true in the EHS profession, is *multitask*. EHS professionals and engineers will do this on a daily basis, maybe hourly. They will learn the basics here in Dr. Winn's book.

I strongly recommend that young people choose to work for an organization that looks forward to encouraging its youth to become active in professional organizations and industry associations. These organizations and associations develop not only your professional skills and allow their members to network, but they also foster your ability to

develop into leaders in industry and leaders in professional organizations.

I also encourage young EHS and engineering graduates to focus on continued education and training through professional certification and designations. This builds credibility for the pro, strengthens the field generally, and provides opportunities to take on additional leadership positions as they become available. Get a master's degree or a second master's degree; get an MBA; get an accounting degree. Stay active in the academic fields as well as in your professional organization. Never stop learning.

EHS and engineering professionals can and should extend outside of the work environment. In this way, our best minds help provide safer communities through involvement in civic groups, local police, fire and emergency associations, schools, scouts, and so forth. We probably haven't encouraged growth in civic areas as much as we should have to this point, but doing so helps take our unique skill set to other people who can benefit just the same as our employees.

A final important message to those who have chosen the EHS or engineering field: You will become a success when safety becomes a core value—not just a priority—with that professional's company or organization. When values are integral within a company's or organization's culture and when values drive decisions, priorities often change. People are energized, and maybe contrary to belief, our tasks actually become easier, not harder.

The future is bright for the EHS profession, in fact, brighter than ever. More companies and more organizations are finally working to integrate the EHS function broadly and to embrace EHS values and support the difficult decisions that EHS professionals often must make. What a gratifying career to be involved in, as the EHS professional partners in protecting people, property, and the efficacy of a company.

I want to thank Dr. Winn for finally writing his book about leadership and leader development simply because we have talked about this for over a decade. More than before, the timing of talk about leadership is opportune as the EHS field is growing rapidly, as companies truly embrace the goals of risk management and safety, and as we turn an important corner and move from merely managing the safety or engineering function to leading them. Speaking for many, I have valued his friendship and appreciate your guidance and mentoring of a couple thousand of West Virginia University's best and

xiv A personal message to the safety and engineering professionals of tomorrow

brightest EHS professionals that are working in a variety of industries worldwide. They make a difference every day. So can you.

Thank you and good luck in your careers.

Carl W. Heinlein, CSP, ARM, CRI

Top companies want leaders more than anything else

Eddie Greer is the director of business development for the Board of Certified Safety Professionals and is the past society president of the American Society of Safety Engineers, where he is a professional member and received the society's highest honor of Fellow in 2007. He retired after 31 years of service with Brown & Root/KBR, serving in safety and health leadership positions throughout the company in areas of SH&E. He says this about the book you are holding:



All you have to do is visit any bookstore, whether specialized or even at the airport, and you will find a plethora of books on leadership. Look at *The New York Times* list of best-selling non-fiction books and you will find well over half deal with leadership and self-improvement. One thing in common with just about all of these publications is that they agree that leadership is different from management. It has been my contention for many years that you manage “things” and you lead “people.”

Leadership principles, especially for the up-and-coming young SH&E professional, is a soft skill usually not covered in an educational environment. As young professionals, you may not consider it as important as your technical skills or give leadership much thought, but you will find that obtaining and utilizing leadership skills will become a key component if you are to be successful and efficient.

Dr. Winn starts at the beginning with discussions of what it means to enter a profession. That must come before any discussion of leader development.

But one thing is certain, there is no quick path or silver bullet in leadership development. It takes many years of study, experience, and mistakes. A degree simply gets you in the door, and from there, you must work to obtain, sustain, and develop the skills to be an effective leader. Being a leader is a journey and not a destination. Even the mightiest of the oak trees die when they stop growing. The same can be said of being a leader; growth and learning are synonymous with success.

I have taught classes on leadership for many years to all levels of participants: from young professionals who are new to the business world to so-called leaders well established in the work environment. The need for effective leaders is still very much evident, and more so today than ever before.

The good news is that leadership can be learned. This book will explore many aspects of what makes an effective leader. Dr. Winn has researched many avenues, including both the industrial and military approaches to leadership, to develop this book and help begin your journey to leadership and “making a difference.” That’s precisely what safety professionals and engineers do that distinguishes these important career paths from all others.

Chapter 2, “Self-discovery Comes First,” ties in very well with part of my definition in that knowledge is not enough; you must understand where you are with regard to leadership and understand what is needed to get you where you want to be. To visualize yourself as a leader, some key questions need to be answered: Who do I want to be like and equally, or even more important, who do I NOT want to be like? Finding a great leader who you can use as a mentor will help your development. You also need to scrutinize yourself for strengths and weaknesses. What steps are you currently taking to help yourself grow and are you actually doing something proactively? Finally, you can actualize your current situation. Are you implementing proactive changes to improve your leadership characteristics? Recognize the things that you feel are encouraging and the things that are tearing you down. Develop an action plan to keep you positive and on track.

In Chapter 6, “Culture, Safety, and Engineering,” leadership plays a key role in developing a sustainable culture. I have a good friend, Brad Giles with the URS Corporation, who states it very well: “Leadership drives the culture and culture drives safety.” Dr. Winn approaches culture not as an abstract concept but from empirical research emanating from Edgar Schein, the foremost thinker on the topic. If you say “culture” in connection with leadership, it probably began with Schein.

One important part of this book is Dr. Winn's discussion of the "depleted environment;" what a safety professional or engineer can do when faced with an unsupportive climate or a huge corporation where nobody else seems to care about leadership. Can the committed young professional leader really do something to create a miniculture? Winn says yes, by following a research-supported recipe he has developed on his own: beginning with an honor code (he suggests a well-known sample) and moving to "values congruency" where workers and managers *are* the ideal, *know* the right thing, and then *do* it without fail or apology. Finally, in this simplified model, safety pros use storytelling, nonmaterial rewards, and personal courage to keep the system refreshed even when there is no support from top management. These aren't new concepts (Dr. Winn credits its original authors), but his application is completely fresh. This little section in the book may end up being its most important.

The real meat of the book is found in Chapter 10, "Crisis and Noncrisis Leadership Models." As you grow as a leader, you will have victories and defeats. How you handle both of these will tell a lot about how you will be as a leader. Trust me in the fact that there will be times when you wish you weren't in a leadership position. However, when you experience victories and start to make a difference with your people, the company, industry, and the profession, all the hard times will melt away. It's how you handle those hot water situations that makes you a stronger and much better leader.

Dr. Winn has provided you with the very latest thinking from industry and the military, researchers and philosophers, and the occasional tank driver. In many cases, you'll note quickly that many of the references are less than a year old as I write this. Your challenge is to recognize the opportunities and apply what you have learned to help influence the people who are your followers. Your goal should be to become an effective leader and serve as a mentor using these fresh approaches.

Good leaders take people where they want to go; great leaders take people where they don't want to go but need to go. This book will help you become a great leader. I am confident of it.

Sincerely,
Eddie Greer, CSP, OHST

Preface

Rewarding careers with big potential consequences

To preface the material in the book, I want to share three observations that underscore the need for a practical book on the art and science of leadership and leader development. The profession of leading and controlling a big safety operation has huge rewards, including advancement both vertically (same industry) and horizontally (different industries). Similarly, project engineers continue to be in huge demand in construction, petroleum, and manufacturing, and more. But unlike most service industries, our chosen career fields can have serious consequences for personal, property, and business continuation when things do go wrong. That's the whole point of this book: My experience and data suggest that both graduate and undergraduates in these fields could be better prepared for the "big time" not only in terms of professional development but also in terms of being ready to be a leader and to develop their own pipeline of subordinate leaders. In this preface to the material that follows, I will justify my concerns.

First, I am concerned about our future safety and engineering leaders as they begin to enter the workforce. In many ways, they are less prepared than they would have been two decades ago, and I discuss my own research later in these pages to justify my contention. On the one hand, recent graduates are better prepared on technical content than any time in history. They can probably calculate time-weighted averages and Laplace transforms in their sleep.

But some years back, I began to sense a change in incoming students. I decided to conduct surveys to verify my suspicion that these were tangibly different students. I found that most of our college-aged students—the Millennials as they are called—have not worked over summers or during the school year and so they don't know how an office operates or how a memorandum is composed. Basic office protocol and etiquette seem to be a mystery to them.

In addition, they have not traveled widely and apparently don't even want to, which means that they are not as ready to understand diversity

and cultural nuance as they might think. My work shows that, increasingly, they don't read newspapers or novels or biographies, even eBooks on a Kindle or Nook.

These graduates vaguely understand that they are entering a profession, but they don't know what a professional really does. They have little concept that they will be faced with ethical considerations far more demanding than their friends in low-stress, low-risk careers.

I tell them only half-jokingly that they will miss important business opportunities if they don't read or travel enough to strike up a good conference dinner conversation about shale gas or smart materials, for example. What are the rippling effects of energy prices on miner safety? Can the fast-paced world of unmanned aerial vehicles (drones) impact worker safety? There are no concrete answers for these and there are a thousand more questions drawn from a news website or morning paper, but a well-prepared young professional on the way to leading his or her department and subordinates will live in a smaller world year by year and should want to ferret out answers to help them lead.

Unfortunately, I don't think professors challenge students very much to read, to travel, and to grow, and as a result, graduates don't seem to understand how interrelated the daily news, current events, travel, and their careers really are. It really matters that our students become more globally ready and can think about the rippling economic effects of far-reaching political climates as they affect worker safety and engineering best practice (for example, safety-through-engineering design means that safety pros and engineers need to know what the other does).

Recognizing these "missed opportunities" for work, travel, and reading, I see that young people in my classes and at the threshold of their careers are more siloed and less global than ever before, but it's nothing that can't be overcome. I show how to address these missed opportunities in this book.

Among the following chapters, we're going to start with the basics: positive preleadership activities, and one of the things I will suggest is continuous reading of *nonwork, non-academic-related* material. And while I admit that my suggested reading lists are based in Appalachia, where (by my count) we have nine universities within 200 miles that are preparing safety and engineering students, a regional reading list could be just as easily for the Southwest, New England, or any other place a leader developer takes an interest to do so. I urge professors who may adopt this book to create their own reading lists.

Second, I have noticed a trend in the last three to five years where industry and government are asking no longer for managers, but leaders of change. It's clear to me that leadership is the new buzz word for engineers and safety professionals. We have spent decades preparing technically qualified engineers and managers, but when it comes to preparing leaders to

meet the new demand, I'm afraid academics aren't themselves prepared to teach about leadership or training subordinates to become leaders.

Let me support my point, first in the safety field:

- Simply searching the Internet for "safety leadership conference" brings up 47 million hits. That's right, *million*.
- For over 10 years, ASSE has been offering an annual "Future Safety Leaders Conference" for the specific purpose of safety students "becoming more effective leaders and communicators." The speaker for the 2014 executive session, Dr. Daniel Moran, spoke about "acting and demonstrating safety leadership, even in the face of difficulties," the very same topics and needs for the future as I discuss in these pages (http://www.asse.org/membership/student_fslc/).

It sure looks like the safety field is interested in teaching leadership. But what about engineering? Here's a fairly typical example. As part of a much larger strategic plan, the American Society of Mechanical Engineers surveyed 68 academic department chairs about communication, ethics, and leadership skills among their graduates. Only 20 percent of these academic chairs considered their students' skills to be weak. Yet Donnell et al. (2010) reported to the American Society for Engineering Education:

Unexpectedly, a parallel survey of industry representatives found almost opposite results, with only 9 percent considering communication, ethics and leadership skills of recent mechanical engineering graduates to be strong and 52 percent of those same students to be weak. Given these results were gathered from 68 mechanical engineering department heads and more than 1000 engineers and managers [currently working in industry], a disparity clearly exists between the communication, ethics and leadership skills we are teaching to engineering students and what industry expects our students to know.

I have to conclude that while academic engineering departments think they are supplying leadership content (among other content), industry seems to think otherwise, and that leadership and ethics should be given more priority.

So, what about a daylong conference on leadership, or maybe a webinar? While well intended, not only are these conferences impossibly brief, but also under the surface, the material is most often merely

collected wisdom handed down by an experienced professional or a big name somewhere. I will admit that good stories make easy reading, but unfortunately, the stories often pass for leader development material. I'm afraid they're just not the same. I further admit that stories, accumulated wisdom, and anecdotes have their place and I use them in this book, but they have to be balanced by corroborating empirical research and data on outcomes. That's the balance I try to strike in this book.

I know that this book is impossibly brief, too, but it does attempt to set the stage for a lifetime of leading and developing subordinates into leaders. It starts with a *conscious decision* to become a leader and not just an employee.

The organization of this book is part empirical, part anecdotal. Its chapter organization parallels the steps that a student or recent graduate needs to make to progress from preprofessional to professional to leader to trainer-of-leaders. Once the new graduate actively chooses this path for his or her career, this book offers a rapid fire way to move forward in a world where the clear expectation is "leader."

Other career paths have the clear expectation of "leader" for their young people, and early in the course of preparing these materials, I noticed the copious organizational research produced by military behavioral scientists often teaching at our service academies. One particularly good example is a book I reference a few more times later in this pages, *Leadership in Dangerous Situations: A Handbook for Armed Forces, Emergency Services, and First Responders*, written by Patrick Sweeney, Michael Matthews, and Paul Lester, all with doctorates in the behavioral sciences and all having taught at West Point.

The more I read, the more I realized that what the military professionals do and what safety and engineering professionals do on the civilian side are much the same. We both work sometimes under intense pressures and we have to be ready for the volatility and challenges in our respective fields wherein bad decisions can be deadly. You'll see that I have sampled greatly from military scientists, and as this book preparation winds to a close, I wonder why the important textbook authors in our field seem to ignore military leadership science.

Third, I wrote some important material specifically for safety professionals and engineers already in the field and working. I decided to venture into a couple of places where others have not trod, so far as I know.

For example, what if after two years in the company, you realize that upper management isn't interested in developing leaders in-house. What if the CEO doesn't care about values-consistent safety behavior in what I call an isolated and "depleted environment?" My answer is that the leader or leader-trainers must actively take the initiative, even alone. They choose a code of behavior supported through values that they select for themselves; they use tested methods of changing a culture to support actions

that are values consistent. They consciously support behaviors that, while they appear “safe” in the traditional sense, are really only actions consonant with a basic duty to look out for each other. And all of this can happen from the bottom up if a leader developer *chooses to do it*, as I discuss in a later chapter.

Another area important for those already on a career path is what to do about “toxic leadership,” which occurs almost predictably when management practices favor the status quo. Why is this important? Because, contrary to the workforce of a couple of decades ago, our new safety professionals and engineering careers don’t have work experience to help spot destructive leaders. I offer help identifying and fighting it.

A third example of material useful to the recent grad or for any young leader who may work under really hazardous conditions is the work I cite from established researchers on how to handle “the death (fatality) event” in an organization. Of course, we hope it never happens, but this is the business we are in, and I think it’s best that young employees are prepared.

Later, I offer a chapter on gender advice for tomorrow’s leaders because the Millennials have a different view of diversity than the older generation does, including me. To help with this chapter, I reached out to women already in high-visibility engineering and risk management careers. I have profiled some interesting work by Barling (2014) and also by Sandberg (2013) about problems and solutions in the gender arena, but I balance it by making sure we have current views from young women who share what it’s like to work in the gas field or on a construction site. I think many readers will find this information insightful.

Finally, and for those already on a career path, I gathered suggestions about international travelling etiquette, knowing that more than ever, recent graduates will be working and living abroad. I asked a group of culturally diverse graduate students from a half dozen representative countries how to avoid embarrassing mistakes overseas.

A brief word about my approach to this book and to friends who will choose to become a leader

If I seem cynical or flippant on occasion, it’s my way of expressing what I believe to be some particular unvarnished truth—and sometimes I am cynical or flippant in real life. My years of experience have told me not to take myself too seriously in the classroom or on the shop floor, so I don’t. For purposes of this book, I wanted to have a conversation with the new graduate and not present just another lecture. In all earnestness, I didn’t set out to write a stuffy textbook, and so I didn’t.

I try to justify my work here with published research combined with my own experience in industry, which included a couple of stints as an

engineer, and of course, my experience as a professor. I know that a student can spot a professor without real work experience a mile away and will shun him or her—I fully appreciate that.

I've tried hard not to embellish actual anecdotes I use from real industry, from real worksites, and from real people. I have eliminated any personal anecdote that did not deliver a clear message.

Finally, let me say that there is no rational way to treat in a single text the full array of topics needed to prepare our safety and engineering leaders of tomorrow in leadership or leader development. Besides, there will surely be better books written purely on the science and organizational research of leadership or purely on its maxims and wisdom. What I have endeavored to do is blend research on leadership with wisdom and anecdote and do it in a way that aims directly at young engineers and safety professionals.

While I don't claim to have covered every leadership source out there, I have distilled the best sources I could find for the special purposes I have set forth for this book as I have outlined in this preface. For those who *choose to lead*, here's a good place to start.

Thank you for allowing me to share with you what I have found.

Gary L. Winn, PhD

*Industrial and Management Systems Engineering
The Safety Management Program
West Virginia University
Morgantown, West Virginia*

Acknowledgments

Acknowledgment for encouragement

I thank the following people who have provided important moral support through the ordeal of research, data collection, and data reduction and, finally, writing this book.

Eddie Greer was encouraging even before there were words on a page. Amanda Crosby, for whom I am an academic advisor for life, encourages me in real time. Sarah Soliman, my engineering freshman and probably the future governor of West Virginia, has inspired me for a decade. Carl Heinlein, the likely future president of ASSE and always a cheerleader for leader development, offers me kind words regularly. Ed Youngblood doesn't stop trying to encourage my writing technical and creative material. Casey Brower encouraged my daughter to be a historian, but she ended up an engineer anyway; he has forgiven that and has been a kind and inspiring aura for both father and daughter. Kate O'Hara, Jennifer Worthington, Hillary Dean, and Jenny Fuller are a few of the top-shelf female safety professionals I am proud to have studied with me over the years. Greg Harrison showed me that even funny stories can carry a sobering message. "Rock" Roszak gave me wonderful first-hand insights on the riveting story of the B-52 crash involving West Virginia's own Mark McGeehan. Dr. Kevin Rider, Burdell Brock, Jody Gray and Pat, Dr. Christina Wildfire, Frank VanCleve, Dr. John and Joan Spaulding, Raymond Stockdale, and Dr. Ava Dykes have stood with me in some pretty difficult moments while this book was being prepared; they are my friends for life. Austin Lee Winn and 2Lt. Laura Dukens, two of the young engineers I am writing for, show me daily what honor and especially loyalty can mean to friends and family. I have enjoyed many-faceted discussions on military history, the Jesuits, and spiritualism with Dr. Jeremy Slagley for years, and I still do. My mom and dad, the end of our family's line of the Greatest generation, said for years that I ought to write a book to help my students, and so I did.

Acknowledgment for content and commentary

I would like to thank the following people who have provided important technical material for this book.

Dave Miller is a cherished family friend who showed me the life-changing qualities of servant leadership, which I highlight in the book. Despite my own best efforts, Jason Musteen brought new and meaningful messages about the 22-year-old George Washington's leadership to light. Ron Kasterman showed me new West Virginia historical vistas with his kind gift of *That Dark and Bloody River*, which should be required reading for students east of the Mississippi River. Fred Schroyer showed me why I'll never be the copyeditor that he is, although he did his best to train me. Fortunately, you can't sell books back to the bookstore at West Point, so Laura Dukens gave me a three-foot-tall pile of books and historical maps from her classes on leadership and history. These are books that I cherish. Bob Hayes, the former president of Marshall University, and his son Mark, an attorney friend of mine, have provided me with material and enthusiasm for West Virginia's sons and daughters. Amanda Fulk helped me to control my loathing of certain word processing software. Alexis Williams is another promising graduate student who provided personal support along with insight and encouragement. Tom Kolditz, Bernie Banks, Mike Matthews, Casey Brower, and Tom Merriwether were awfully patient in explaining how wrong I was to think I could somehow "distill" leadership into a few theories and maybe a single college course; I have grown immensely in their shadows. Josiah Grover is a talented professor specializing in historical weapons and why weapons technology in the hands of a brilliant leader is a key to winning in combat. Professor C. B. Wilson agreed that this book was a good idea and approved a sabbatical so I could devote time to writing it. C. B. has been the associate provost for academic personnel at West Virginia University for a long, long time and we are lucky to have him. Drs. Tara and Dan Hartley are epidemiologists at NIOSH in Morgantown, West Virginia, and provided important material about work-related stress, in particular, the Buffalo COPS study. They are good people and proud WVU grads. ASEE's Mike Burditt provided an endless series of constructive comments for which I am grateful. Taylor & Francis' Melisa Sedlar and Cindy Carelli provided useful commentary in the final stages of the book's preparation.

And to my safety and engineering students over a quarter of a century, thank you for letting me be part of your lives.

The Editorial Team

I am especially grateful to the students in our first experimental class, “Practical Leadership for Safety Professionals and Engineers,” at West Virginia University. The Editorial Team consisted of (from left to right) Narupon Thankiul, Tommie Weideman, Ryan Bremar, Jeremy Cole, Alexis Williams, Andrew Saab, Zinga Martinelli, and Dr. Winn. These students were patient and open and helped me grasp what is truly important for tomorrow’s safety and engineering leaders.

Thanks, guys, and welcome to your future.



Introduction: Why this book is needed by graduating safety professionals and project engineers

I certainly hope this book is valuable for safety and engineering students and for young professionals already in the workforce. These are fast-changing career fields and becoming more global and diverse every day. Both career fields are high-stakes professions where mistakes are costly. Both offer many strong job opportunities well into the next decade. Engineering and safety both require a set of special technical skills like math, physics, and chemistry, but their stock-in-trade has always been protecting and motivating the people who get the work done.

In the last few years, senior executives in both career fields share something else: an interest in building leaders in their respective industries. Entire conferences are dedicated to discussions of leader development and how good leaders transform and galvanize an entire company. Judging by titles of journal articles, blogs, and buzz words on LinkedIn, top organizations want leaders more now than ever before.

But as young people enter the workforce, they may not clearly grasp that becoming a leader is not a passive process; it is *not* something you get by hoping it happens or waiting for a promotion. On the contrary, young people must choose to become a leader—an agent of change—to best serve themselves, their coworkers, and indirectly, their families and community.

As new career professionals enter a field and advance a few years, they'll quickly find that they will not work in a vacuum. They'll have subordinates who are just as eager to learn as they were, and now, new career professionals will face another decision: how to become a leader-developer.

This book outlines the steps a student, recent college graduate, or young professional who is already working can take when choosing to

lead and choosing to cultivate their own subordinates. The following four sections represent the sequences of the book and also the sequence that a young professional would follow in becoming an authentic leader.

Unit 1: Choosing personal development

Early-career success starts before the first day on the job. It works like the following:

- The student or new graduate realizes at some point that he or she will someday have people under his or her direct supervision. At that time, he or she may *decide to become a leader* to meet the unmet needs of these subordinates and, maybe, the needs of the organization itself. Usually, it's one of those personal epiphanies—the mountaintop experience—that sets things in motion and offers a fork in the road. They can let things lie or they can actively make better things better. Maybe it's a first-hand look at a serious injury that could have been avoided; maybe it's a coworker who needs guidance. At this point of fledgling self-awareness, the new graduate chooses to get involved. To lead.
- The new graduate consciously begins to *read, network, dress, and act the part* of a professional in safety or engineering and consider some simple ethical canons as part of daily life. I'll explain how this is accomplished in later chapters, and it's much easier than you might think. I'll show some samples of my own "maxims of truth" so you can create your own.
- The new graduate decides to *become an "interesting dinner guest,"* and I'll explain not only the rippling implications this will have on career advancement but also implications for safety and production. Reading-for-career and reading-for-self are the keys to success here.
- The new graduate starts work toward *additional certifications and licenses* that represent professional credentials and can enhance networking in a global workplace.
- I present a very basic course in *how to excel at office behavior* and avoid embarrassing "newbie mistakes."
- Now, with a solid foundation underneath, we examine in these pages how applying *successful models of leading others* can enhance the organization's mission and individuals employed there. Used outside the workplace, these models can also guide decisions involving family and community.
- To add patina and bring things to a close, I'll discuss some *career challenges* that will help even an experienced leader faced with really difficult circumstances. For example, I will show how to develop leaders even when nobody in upper management even notices.

This bulleted abbreviated roadmap represents a time-tested, research-backed way to accelerate a recent grad or a new hire in safety or engineering.

Unit 2: Understanding leadership

Becoming a leader isn't a spectator sport: It's a participant sport and a lot more like rugby than billiards. Yet despite getting bounced around, I have found that the most satisfying and successful careers in engineering or safety will be built upon "giving to" and "giving back." *Giving to* means giving your best effort to your employer and acting consistent with your own core values. *Giving back* means actively preparing your own subordinates with the skills and values they'll need to replace you once in a while, or even permanently. I have found that giving to and giving back are life changers as much as career changers.

And they are characteristics of solid leaders, and leaders *choose* to do them.

In this segment of the book, we discuss crisis and noncrisis models of leadership and how today's foremost researchers in organizational behavior view these topics.

Unit 3: Applying leadership fundamentals

I have placed graduates and mentored early career safety and engineering professionals in careers for decades and I noted for a long time that their training and early career progress rarely consider leader development. There are no books available on the application of leadership principles, and so I decided to write one myself.

Why not just write my own textbook, they said. Sure, I said, I've got a couple of free weekends. Boy, did I underestimate the task...

I have tried hard to find and incorporate as many actual case studies to demonstrate the principles I illustrate both in safety and in engineering.

One important part of this module is a new model for experiential training, something we do in safety and engineering all the time, but for certain kinds of training, there's a way to merge the acquisition of knowledge and skills with leader development. And there is a good bit of research to support it, too.

Unit 4: Fine-tuning leadership applications

This book is an effort to combine the art and science of leadership in a common-sense way; you'll soon find that my tone is conversational and the presentation is not going to exhaust every textbook out there. Rather,

I'll cover the material that, in my experience, will be germane and save time exploring for "what works."

In the basic books on leadership, there are no discussions of "toxic leadership," or what happens when good leaders use their nominal positions to bully or serve themselves. I did not see anything about how a young professional can actually create a microculture in a climate where upper management does not seem to care about leader development. I found nothing about some of the unfortunate but likely circumstances that a new safety professional might discover when a colleague or direct-report employee is fatally injured on the job.

I cover those and a couple more areas that I found where my students could use a jump start: basic office protocol and business etiquette.

section one

Choosing personal development

