Leadership for Engineers: The Magic of Mindset

Bennett, Ronald; Millam, Elaine

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Introduction

In the latest installment of the movie franchise "James Bond", "Spectre", James was asked why he was in that line of work. His answer was that he never stopped to think about it. In the book, "Leadership for Engineers: The Magic of Mindset" by Ronald Bennett and Elaine Millam, the authors cover topics about self-examination and self-awareness with the aim to engage the reader as to why they are leaders and why they would like to continue to be leaders in their field of work. The book comprises four parts and sixteen chapters. It covers the following material:

- Myths about engineers as leaders
- Assessing engineering leadership potential
- Becoming better leaders using reflection and social techniques
- Identifying the engineer leader's mission.

Summary

Part One: Myths

"Leadership for Engineers: The Magic of Mindset" starts by dismissing some popular myths about leaders and the roles they play. The idea behind listing the myths is for the reader to examine his beliefs and conclude which myths are real and which ones can be considered gossip. The book covers twenty myths throughout four chapters. Some of the most interesting myths were:

- Myth 9: Only Extroverts Can Be Good Leaders. Introverted characteristics actually help people become effective leaders, as they prefer to listen and think before taking action.
- Myth 10: Leadership Means Position Authority. Leadership is all about collaboration and teamwork. "Management and leadership are complementary skills—but not all managers are leaders" (Page 17).
- Myth 18: Leaders Get MBA's, Not Technical Degrees. True in the past, but becoming irrelevant as more educational institutions offer leadership courses to technical people like ELPP.
- Myth 20: People Want to Keep Their Expertise Secret. In order to succeed in today's marketplace, engineering leaders understand that sharing information across teams is a necessary, if not required, practice to remain competitive.

Part Two: Finding Your Inner Leader

The authors outline the leadership development process as the path to find the leader's inner truth. This process is formed by four 'learning curve' stages (George Leonard (1992) "*Mastery*").

Stage 1

Few engineer leaders have gone through the process of assessing their skills, personalities and potential:

"We found the same thing with many emerging leaders. They confessed that they had never thought about themselves. They realized that most of their choices had been dictated by guidance from many others around them. They had not taken the time to look carefully at who they truly were. They hadn't assessed their values, their passions, their beliefs, or their strengths in any systematic way. Rather, they had followed a path that seemed comfortable, aligned with their interests, and pleased their close associates and family. They had taken their cues from others or had tried to emulate others. It was rare to hear that someone had truly spent time to be intentional and deliberate in their choice making" (Page 42).

Stage 2

Engineer leaders build self-awareness using assessment tools, which help them discover their learning styles, potential, personality, etc. These findings allow engineers to plan and develop leadership goals.

The authors indicate five assessment tools to help expand one's assessment:

1. Using 360° feedback: Information from responses to open-ended questions about the person being assessed. These questions are asked to the person's colleagues.

2. Measuring your emotional intelligence. "A multidimensional construct that links emotion and cognition with the aim of improving human interactions (Mayer, Brackett, and Salovey 1997)" (Page 54):
   a. Awareness of one's own and others' emotions
   b. Emotional facilitation
   c. Emotional understanding
   d. Management of one's own and others' emotions

   Based on studies listed by the authors, these skills have proven to be a necessity for effective leaders.

3. Learning about your preferences based on personality types. Based on the Myers-Briggs Type Indicator (MBTI) personality inventory:
   a. Extraversion or Introversion
   b. Intuition or Sensing
   c. Feeling or Thinking
   d. Judging or Perceiving

4. Finding and classifying your learning style. Effective learning can be achieved by knowing one's learning trends. According to studies (Kolb 1981, 2007), learning is a cycle that encompasses four stages (see pic 6.2):

a. Diverging (concrete, reflective): ability to learn through observation. Example: brainstorming
b. Assimilating (abstract, reflective): learning by grouping different observations, such as designing tests to validate theories.
c. Converging (abstract, active): practical application of ideas; solving technical problems.
d. Accommodating (concrete, active): learning by trial and error.
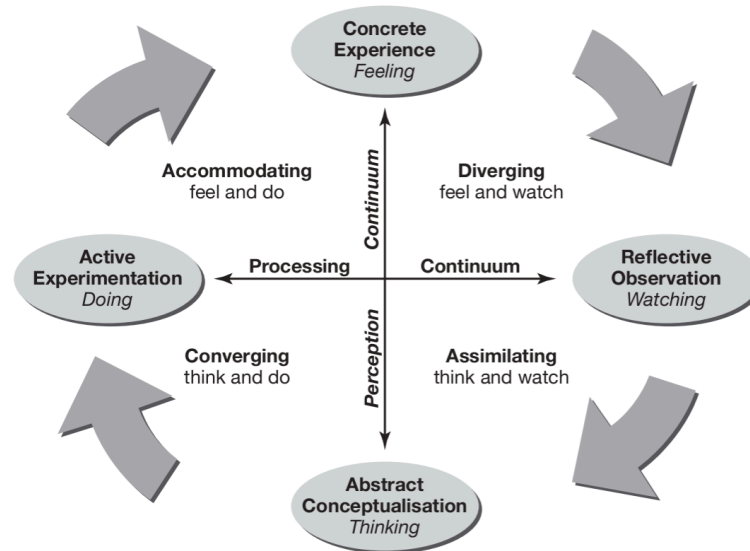
Picture 6.2 (Page 65)

5. Identifying your values and passions. Understanding one's beliefs and values can directly influence a leader's perspective to opportunities and potential. A leader who's aware of his values and beliefs can decide which one to invalidate as to achieve different perspectives that are aligned with his vision.

Stage 3
Using their new self-awareness, engineer leaders can reflect on their emotional intelligence, learning styles and personalities to become conscious leaders. Furthermore, leaders in this stage have learned the value of personal growth, the importance of their roles, and the relationships their roles create.

Stage 4
Engineer leaders have new vision of leadership based on their belief of making a difference in the world. Leaders at this stage have learned how to manage and test their skills while becoming effective leaders with greater power of influence.

Part Three: Making a Difference
Chapters in part three elaborate on the aspects of stage four (above). Moreover, it describes a roadmap for leadership learning and growth. "Richard Boyatzis

and colleagues (2008) have developed an Intentional Change Model, which helps people engage in transformation and embrace it. The model includes several key elements" (see Figure 11.1) (Page 111):
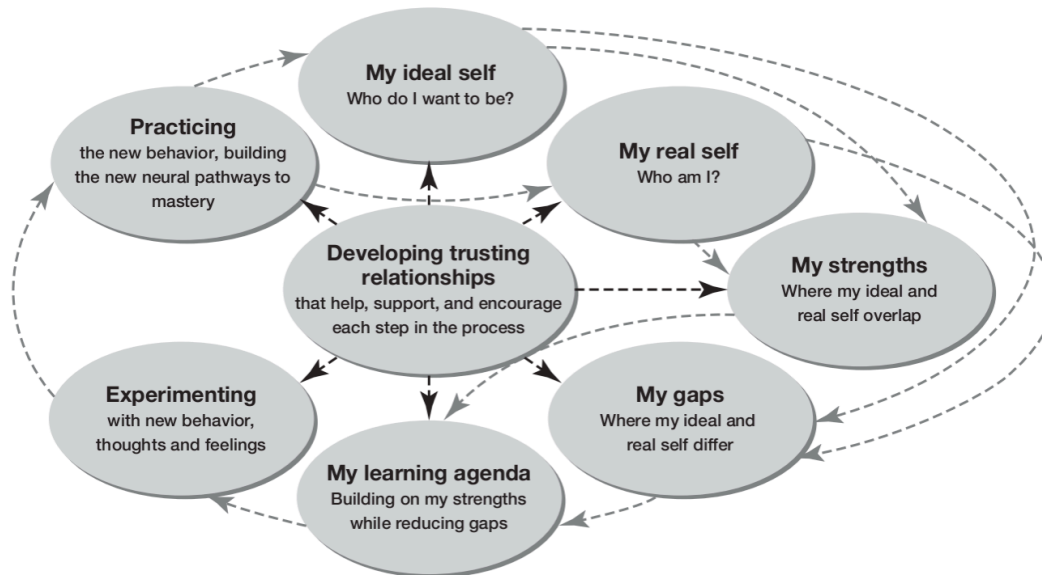

FIGURE 11.1 Intentional change model.

My Ideal Self and My Real Self
After identifying beliefs and passions through self-assessment, leaders become self-aware and can determine whom they are while formulating a vision of where they want to be in the world.

My learning agenda
Engineering leaders enhance personal strength and improve weaknesses to learn, grow and achieve their vision. Some learning tactics mentioned by the authors include 'Action Learning', which has the following form:
Action -> Reflection -> Planning -> Action

Developing trusting relationships
Leaders must maintain close relationships with colleagues who can provide guidance and feedback on every step of the Intentional Change Model allowing for continual growth.
These relationships are nourished through active trust, which involves communicating at all levels: body language, empathy, tone of voice, timing, pace and intensity.

Experimenting
Leaders try new leadership methods demonstrating their new strengths.

Part Four: Why The World Needs You

Engineering leaders, by definition, are best suited to solve the problems of a technological world. With their technical background and people skills, engineering leaders can collaborate to serve the public good.

In part four, the authors also encourage engineering leaders to adopt the following characteristics:

- Ethical Behavior: practice integrity and fair dealing, tolerance and respect. Companies that behave ethically perform better financially.
- Serve the Public Good: improve the human condition.
- Stewards of Nature: use material and energy resources for humanity's benefit.
- International collaboration: build relationships that help counterparts in other countries understand issues abroad and facilitate technical support.
- Develop Others: by helping others, leaders help themselves and the organizations to which they belong.

Evaluation

"Leadership for Engineering" takes a different viewpoint to leadership. To be an effective leader in a technological world, one must have technical expertise and people skills. In part one, the authors dismiss the idea of engineers as poor candidates for leadership roles. Moreover, they illustrate why engineers are better suited for leadership positions than any other professional group. The book also indicates that leadership and management don't share the same roles although a person could do both.

The development stages and assessment tests in part two walk the reader through the process of becoming self-aware. The book failed to order the content and made the process, at first, hard to follow. For example, all stages are discussed in one chapter while the details of the stages are described in following chapters.

Explaining the first stage (lack of self-awareness) and post assessment stages can be helpful to engineering leaders and encourage them to complete the assessments in stage two. One reason most leaders don't take assessments is because the benefits of knowing the assessment results are not explained.

Expanding the definition of stage four (becoming effective leaders) in part three gives the reader the opportunity to understand it in depth, as it is the most dynamic stage. Unfortunately, the authors don't tell the readers that part three is about stage four. Nonetheless, part three has several important points, including the chapters about trust and relationships.

I believe the last part of the book, although important to any engineer (and not necessarily to an engineer in a leadership role), does not fit well with the main context of the book. Part two and three are about the learning cycle an

engineering leader goes through to improve his leadership skills. Part four is mainly about how to function as an engineering leader.

Conclusion

One aspect I found interesting about reading this book (unlike other leadership books) is that it focuses on the psychology of the engineering leader's tendencies. Starting with the psychology assessments and how to establish trust based on body behavior, the book has powerful insights about human interaction. Overall, I would recommend this book to my colleagues and friends. I would also recommend this book to be read before taking the ELLP course; being aware of one's leadership strengths and weaknesses can improve how the course material is absorbed.