A product of the TRADOC G–2
Operational Environment Enterprise

VERSION
9.0

THE RED TEAM HANDBOOK

THE ARMY'S GUIDE TO MAKING BETTER DECISIONS

University of Foreign Military and Cultural Studies
UFMCS
Center For Applied Critical Thinking

This publication is both available at

https://usacac.army.mil/organizations/ufmcs-red-teaming/

and for registered All Partners Access Network users at

https://community.apan.org/wg/tradoc-g2/ufmcs-red-team-central/.

UFMCS

University of Foreign Military and Cultural Studies
TRADOC G-2 Intelligence Support Activity
803 Harrison Drive, Building 467, Room 315
FT Leavenworth, KS. 66027-2308
https://usacac.army.mil/organizations/ufmcs-red-teaming

Phone Roster

Director	913-684-7981
Course Information and Operations	913-684-4323/4336
Curriculum	913-684-3861
Librarian	913-785-3081
Technology / Online Info	913-684-4323
Security	913-684-4336
Fax	913-684-3887
DSN	552-xxxx

UFMCS Red Teaming Central

The All Partners Access Network (APAN) is an unclassified information sharing and collaboration enterprise for the United States Department of Defense (DoD). Red Teaming Central is a community within APAN that enables Red Teamers to share their ideas on Red Teaming. Any U.S. military and government employee can register with APAN and join our Red Teaming Central at https://www.apan.org.

Class Descriptions, Scheduling, and ATRRS Enrollment

All class descriptions and fiscal year scheduling information are available on UFMCS's public website:

https://usacac.army.mil/organizations/ufmcs-red-teaming/classes

To register for a UFMCS resident course, each student must have their Command's approval and enroll through their authorized Command's Army Training Requirements and Resource System (ATRRS) Operator. No individual can enroll themselves into ATRRS. The steps below will assist in finding the UFMCS Resident Courses available:

1. Go to https://www.atrrs.army.mil/atrrscc/search.aspx
2. Select a Fiscal Year, e.g., 2018
3. Select the School Code: 159 (UFMCS).
4. Click Search the ATRRS Course Catalog button
5. Select a UFMCS course from the table.

Contact UFMCS Course Information and Operations for assistance (see previous page).

Table of Contents

List of Tables and Figures vii
Preface ix
Editorial Staff xi

CHAPTER 1 - INTRODUCTION 1
Why Do We Red Team? 2
What is Red Teaming? 3
Four Principles of UFMCS 3
UFMCS Training 5
This Handbook 5

CHAPTER 2 - SELF-AWARENESS AND REFLECTION 7
Self-Authorship 9
Temperament 10
Emotional Intelligence 12
Interpersonal Communication 13
Interpersonal Conflict 15
Introspection 15
Summary 17

CHAPTER 3 - FOSTERING CULTURAL EMPATHY 19
Understanding Culture for the Red Teamer 20
Ethnocentrism 21
Some Cultural Definitions 23
Some Cultural Frameworks 25

Cultural Analysis for the Red Teamer 27
Functional Systems Approach 30
Cultural Relevance 36
Summary 36

CHAPTER 4 - APPLIED CRITICAL THINKING 43
What is Applied Critical Thinking? 43
The Time Factor 44
Time for Red Teaming 46
Creating Space and Time 47
Summary 49

CHAPTER 5 - GROUPTHINK MITIGATION AND DECISION SUPPORT 51
Group Dynamics and Groupthink 51
Groupthink Mitigation 53
Decision Support 55
Summary 56

CHAPTER 6 - THINKING CREATIVELY 57
The Creative Thought Process 57
Stage 1: Problem-Finding 58
Stage 2: Preparation 59
Stage 3: Ideation 60
Stage 4: Idea Verification 62
Stage 5: Communication 64
Summary 66

CHAPTER 7 - RED TEAMING TOOLS, TECHNIQUES, & PRACTICES 69
Tools 70
A Technique: The Ideal Group Process 70
Practices 70

1-2-4-Whole Group 75
1 on 1, 2 on 2, Exchange Emissaries 77
4 Ways of Seeing 79
5 Whys 81
5 Will Get You 25 83
6 Empathetic Questions 85
6 Words 86
Alternative Futures Analysis 87
Analogy Suitability Analysis 91
Analysis of Competing Hypotheses 95
Appreciative Interview 99
Argument Deconstruction 102
Assumption Sensitivity Analysis 105
BATNA 107
Brainstorming 109
Circle of Voices 112
Circular Response 114
Critical Variables 116
Cultural Perception Framework 122
Deception Detection 140
Devil's Advocacy 142
Divergence - Convergence 144
Dot Voting 147
Fishbowl 150
Frame Audit 153
Gallery Walk 154
High Impact / Low Probability Analysis 157
Indicators or Signposts of Change 160
Key Assumptions Check 163
Mind Mapping 166

My 15% 168
Onion Model 169
Outside-In Thinking 171
Premortem Analysis 173
Problem Restatement 175
Shifting the Burden 178
Stakeholder Mapping 183
State–Elaborate-Exemplify-Illustrate (SEE-I) 187
Storytelling 189
String of Pearls 191
S-W-O-T Analysis 197
Team A / Team B Analysis 199
Think-Write-Share 201
TRIZ 203
Troika Consulting (Ad Agency) 206
What If Analysis 208
Who Am I? 210
Yes, And 212
End Notes 214

BIBLIOGRAPHY 218

List of Tables and Figures

TABLES

TABLE 2.1 PERSONALITY DIMENSIONS NEEDS AND VALUES 11
TABLE 7.1 ACT - GTM MATRIX..... 74
TABLE 7.2 FOUR WAYS OF SEEING..... 80
TABLE 7.3 ANALOGY SUITABILITY MATRIX 93
TABLE 7.4 ANALYSIS OF COMPETING HYPOTHESIS MATRIX..... 98
TABLE 7.5 CRITICAL VARIABLES (CVS) RELATED TO PMESII-PT...116

FIGURES

FIGURE 2.1 SELF-AUTHORSHIP DIAGRAM..... 10
FIGURE 2.2 EMOTIONAL INTELLIGENCE FRAMEWORK..... 13
FIGURE 3.1 THE ONION MODEL 28
FIGURE 3.2 FUNCTIONAL SYSTEMS APPROACH..... 30
FIGURE 4.1 EXAMPLES OF BIAS..... 46
FIGURE 6.1 CREATIVE THOUGHT PROCESS - PROBLEM FINDING 58
FIGURE 6.2 CREATIVE THOUGHT PROCESS - PREPARATION 59
FIGURE 6.3 CREATIVE THOUGHT PROCESS - IDEATION 61
FIGURE 6.4 CREATIVE THOUGHT PROCESS - IDEA VERIFICATION 63
FIGURE 6.5 CREATIVE THOUGHT PROCESS - IDEA COMMUNICATION . 64
FIGURE 7.1 IDEAL GROUP PROCESS 73
FIGURE 7. 2 ALTERNATIVE FUTURES EXAMPLE..... 90
FIGURE 7. 3 ALTERNATIVE FUTURES EXAMPLE..... 90
FIGURE 7.4 DIVERGE-CONVERGENCE MODEL.....146
FIGURE 7.5 GALLERY WALK.....156
FIGURE 7.6 FIGURE DIAGRAM TO PRESENT ANALYSIS 159
FIGURE 7. 7 KEY ASSUMPTIONS CHECK DIAGRAM 165
FIGURE 7. 8 MIND MAPPING 167
FIGURE 7. 9 THE ONION MODEL MANIFESTATION OF CULTURE 170
FIGURE 7.10 OUTSIDE-IN THINKING DIAGRAM.....172

FIGURE 7.11 BUILD YOUR OWN - SHIFTING THE BURDEN MODEL .. 179
FIGURE 7.12 SHIFTING THE BURDEN WITH ACT-GTM TOOLS 181
FIGURE 7. 13 SHIFTING THE BURDEN EXAMPLE DIAGRAM 181
FIGURE 7. 14 COMBINED INTEREST-INFLUENCE DIAGRAM 185
FIGURE 7.15 STRING OF PEARLS – PLANNING PROCESS 191
FIGURE 7.16 GRADE THE PEARLS 193
FIGURE 7.17 FIND THE CRITICAL PEARLS..... 193
FIGURE 7.18 SPEAK TO THE CRITICAL PEARLS 194
FIGURE 7. 19 PROBLEM OF CONTRADICTION..... 204
FIGURE 7. 20 PEAK AND VALLEY DRAWINGS 211

Preface

Chief of Staff of the U.S. Army General Mark A. Milley repeatedly warns of increased complexity, ambiguity, and speed in future warfare. The decision-making process at all levels of command will be challenged by the environment, the situation, and the enemy, as well as by the perception and interpretation of our thoughts. The requirement to frame decisions around the scope and rate of information sharing on the modern battlefield and adapting those frames to the complexity of context and content, necessitates the ability to think critically and creatively. The curriculum at the University of Foreign Military and Cultural Studies (UFMCS) directly addresses these challenges by training and preparing students to operate as a Red Teamer. Red Teaming creates and illuminates pathways to better decisions by employing structured techniques to identify hidden dangers, reveal unseen possibilities, and facilitate creative alternatives. It is, in essence, a form of risk management for the human brain.

The U.S. Army chartered UFMCS with the mission to teach Red Teaming to the U.S. Army and other authorized organizations. As the nature of warfare has evolved, so too has our curriculum and academic offerings. Version 9.0 of the Red Team Handbook represents the current state of our program. Although the contents of this volume and our courses are not official doctrine, the practices discussed directly support and are in both Joint and U.S. Army Doctrine. This handbook provides the reader with an introduction to the fundamental concepts, methods, and tools essential to the practice of U.S. Army Red Teaming.

Mark R. French
Director, UFMCS

Editorial Staff

With many iterations of the Red Team Handbook since 2005, we could not have made it to this version without everyone's contribution and hard work over the past years. Many months of work contributed to making this handbook much more concise to the application of Red Teaming. As a caveat, Red Teamers never like to bind themselves to only one way of looking at the world, much less just one way of looking at this handbook. As we continue to innovate and change how we see ourselves, we will continue to improve and update this handbook.

UFMCS has over 20 staff members who are committed to training Red Teamers in the classroom, and those same 20 are also responsible for the curriculum and this handbook. All staff members and supporters listed below really made a difference in putting this handbook together:

<u>Handbook Committee</u>
Mark French
Sonja Moyer
William "Razz" Rasgorshek
LTC Neil Gensler
Scott Fausset

<u>Chapter Contributors</u>
Mark Monroe
Patricia Callahan
Dr. Rob McClary

<u>Handbook Contributors</u>
William "Bill" Greenberg
Maj Pat "Coach" Lieneweg
Michael Rogan
Chad Mitchell
LTC Steven Sallot
LTC Jackie Jones
LTC David Bornn
Thomas "Andy" Shoffner
Steve Hall
Gary Olson
Timothy "Adam" Herndon
Rebecca Hall
Brian McDermott
Thomas Switajewski

<u>Graphic Artists</u>
Andre J. Buck (Cover)
Brian Tarallo (Graphics)

Chapter 1

Introduction

A leader convenes a meeting of the organization's key personnel and top planners to develop an operational plan for the next year. These people work in the same environment, have received similar training, and share common experiences within a hierarchical framework. The process seems to go smoothly, as most decisions are made based upon what the group believes the leader wants, what the senior personnel suggests, and what everyone knows to be true about the organization and the operational environment. The plan is drafted, accepted, and put into practice.

And it fails!

Why did it fail, and what could have been done to increase the odds of success?

The group may have misunderstood what the leader wanted, or "what everyone knew" might be incorrect. Participants could have fallen into the trap of "doing things like they were always done," without considering alternatives or ways to improve. The group may have ignored ambiguous and complex topics, thinking they didn't matter. Perhaps the junior person in the room knew of a problem but was afraid to

contradict someone senior or the subject matter expert. Moreover, the actions of a competitor or adversary may have completely derailed the plan.

As human beings, we develop patterns of behavior and thought that help us achieve our goals with the least amount of effort possible. For example, we learn early in life that we can have greater success and more friends if we cooperate and agree with other people – go along to get along. To save time and energy, we develop shortcuts and apply solutions that work in one area to problems in another, even if the responses don't fit perfectly. We assume we know more than we really do, and we don't question our assumptions. The introverts among us, despite having valuable ideas, cede control in meetings to the extroverts and remain mute. These actions and this learned behavior combine to deceive us. We assume we are applying the best solutions without reflecting on our actions and asking if there is a better way, or if we are really applying the correct thought and behavior to get the outcomes we want. When we join together in groups, these human characteristics amplify, and our tendencies and learned patterns of behavior lead us to situations like the planning meeting described above.

Why Do We Red Team?

Expanding on the words of psychologist Dietrich Dörner, people court failure in predictable ways, by degrees, almost imperceptibly, and according to their own culture and context. In other words, we routinely take shortcuts because of limitations on time, personnel, or other resources, and we accept that as a normal way of doing business. We assume we understand situations because we have been in similar ones before, and we turn a blind eye to ambiguity or don't fully appreciate asymmetries. We discount potential threats because we don't fully appreciate the likelihood of occurrence or the

complexity of influencing factors. We make many small decisions that are individually "close enough," but when joined together, become the seeds of failure. We take comfort in the familiar, and assume others, even on the other side of the world, share our views, beliefs, and tendencies. These reasons and more are why we Red Team.

> *"Every assumption we hold, every claim, every assertion, every single one of them must be challenged."*
>
> CSA Mark A. Milley

What is Red Teaming?

Red Teaming is a flexible cognitive approach to thinking and planning that is specifically tailored to each organization and each situation. It is conducted by skilled practitioners normally working under charter from organizational leadership. It uses structured tools and techniques to help us ask better questions, challenge explicit and implicit assumptions, expose information we might otherwise have missed, and develop alternatives we might not have realized exist. It cultivates mental agility to allow Red Teamers to rapidly shift between multiple perspectives to develop a fuller appreciation of complex situations and environments. This leads to improved understanding, more options generated by everyone (regardless of rank or position), better decisions, and a level of protection from the unseen biases and tendencies inherent in all of us.

Four Principles of UFMCS

The University of Foreign Military and Cultural Studies (UFMCS), established in 2005, offers Red Teaming instruction built on four main principles and incorporating several key fundamentals. The first principle addresses the individual with **Self-awareness and Reflection (SAR)**. If we are to make better decisions, we must first understand what beliefs guide and

motivate us, why our unique experiences lead us to those beliefs, and why we make the decisions we do. An active appreciation of our system of belief and decision-making process provides us the opportunity to apply fundamentals like slowing down – taking time to reconsider our preconceived notions and assumptions and basing more of our actions on logic than on emotion. Self-awareness also helps us foster an openness to new ideas, a desire to improve, and a conviction we can.

When individuals join and create groups, we apply the second principle, **Groupthink Mitigation (GTM) and Decision Support**. People acting in groups can fall victim to unseen group dynamics that can derail the decision-making process. There are unseen forces and dynamics that can pressure us to agree with the group or to avoid contradicting the senior person or subject matter expert in the discussion. Closely examining group dynamics and actively soliciting and considering ideas and solutions from all group members (without fear of recrimination) presents a fundamental way to break free from groupthink and help make better decisions.

When considering groups, whether larger foreign societies or smaller sub-groups in your own organization, we gain perspective by **Fostering Cultural Empathy (FCE)**. This principle helps us understand why different people and groups value different things, and why they approach issues and act in fundamentally different ways. Though we perceive shared similarities in some areas, we are all unique products of a lifetime of different experiences, lessons, and beliefs. Adopting an anthropological focus, we can ask why another person or group act a certain way, and honestly attempt to explore the influences and reasoning that led to such behavior. Even in cases in which we find behavior abhorrent, we can still establish a clearer understanding that could lead us to a more effective

response.

The final principle, **Applied Critical Thinking (ACT)**, provides an improved understanding of our own decision-making processes, as well as the ability to deconstruct arguments and better understand others. It helps identify assumptions, biases, and can allow us to restate ideas using an analogy to describe complex ideas more simply. Perhaps most importantly, it allows us to generate and evaluate alternatives, thereby increasing our chances of finding the path to success. ACT incorporates several fundamentals, including slowing down, asking why, seeking alternatives, and other more-advanced strategies.

UFMCS Training

UFMCS presents these interlaced principles and fundamentals within a curriculum designed to improve the ability of students to think and act in a continually evolving, complex, and ambiguous environment. Like Red Teaming itself, each class is audience-focused, tailored for topic, time and resources available, venue, and desired result. Sessions are heavily interactive. Students actively practice techniques and employ tools in an iterative manner, constantly building on their knowledge and abilities. This facilitates the development of levels of proficiency only possible through hands-on application and helps ensure UFMCS graduates can confidently apply their knowledge outside the classroom. UFMCS also maintains an active online community and offers reach back support and follow-on training to ensure continual growth and refinement of the Red Team community.

This Handbook

This handbook is an unclassified living document and regularly evolves to incorporate new ideas, approaches, and

tools. It should provide a compendium of ideas from UFMCS curriculum and serve as both a reference for our graduates and a broad introduction to others; it is not intended to be a textbook, a checklist, or doctrine. In the spirit of Red Teaming and generating alternatives, we welcome comments, suggestions, and input to aid the process of continual improvement. We hope the following pages provide value to every reader and inspire some to pursue further study.

Chapter 2

Self-Awareness and Reflection

"Only as you do know yourself can your brain serve you as a sharp and efficient tool. Know your own failings, passions, and prejudices so you can separate them from what you see."

Bernard Baruch, Presidential advisor to Woodrow Wilson (WWI) and Franklin D. Roosevelt (WWII)

Humans are more complex than we appear. Though outside observers might note our habits and routine behavior, they cannot easily observe or discern the experiences, values, psychological needs, and biases that cause us to act in specific ways. As the only one with an internal view, each individual is responsible for reflecting on and considering their own inner composition. Once we understand why we behave in certain ways, then can we act to overcome undesired or unproductive personal tendencies.

The journey to such understanding is that of becoming more self-aware. Self-awareness provides the ability to see the self as a separate entity, independent from others and the environment, yet continually influenced both by those factors

and by a lifetime of experiences. The need for such awareness shows itself every time we make a decision; objective evaluations and decisions can only be made by self-aware individuals who understand the characteristics of the self that would influence the end result.

Such an understanding can protect us from the pitfalls of modern life. Constant demands on our time, whether from family, work, or other obligations, push us toward making faster decisions based on instinct or intuition. While that technique certainly takes less time than reflecting on the issue, it often leaves no time to consider the subconscious memories, emotions, or biases involved in decision-making processes. Recognizing the factors that cause us to think or feel a certain way is the first step to making a better decision.

A self-aware person is more mindful of personal dispositions and biases, and recognizes internal cultural, contextual, and situational frames. This self-awareness benefits the Red Teamer and critical thinker by allowing us to understand not only our own baseline of thought and behavior, but also how external stimuli like exposure to other cultures or different ways of thinking impact that baseline. Self-awareness allows us to move beyond simply recognizing our emotions, into awareness of why those emotions exist in the first place. Beyond allowing us to understand ourselves, this deeper awareness can help strip away the barriers to understanding and empathizing with others.

Though discussed as a single discipline, self-awareness development at UFMCS employs a collection of lessons, techniques, and evaluations, all based on the theory of Self-Authorship. The combination includes:

1. Study of Temperament; Personality Dimensions®
2. Study of Emotional Intelligence and Well-being

3. Study of Interpersonal Communications
4. Introspection: Who Am I? Exercise
5. Introspection: Daily Journaling

Self-Authorship

Self-Authorship, first penned by developmental psychologist Robert Kegan and then further developed as a higher education model by Dr. Marcia Baxter Magolda, is a holistic model and approach to developing self-awareness. Self-Authorship generates an internal voice to guide responses to external realities and has value for critical thinking and decision making. It is a process whereby we develop the values and an internal compass that will enable us to deal with new information, ambiguities, and life challenges. Expanded into the Theory of Self-Authorship (see Figure 2.1), Dr. Baxter Magolda describes our ability to internally define our own beliefs, identities, and relationships as a key driver of personal growth and self-awareness. The theory is grounded in two assumptions about adult learning and knowledge. First, people create knowledge by interpreting their own personal experiences. They analyze and judge experiences from an individual perspective, and the resulting information is what we consider to be knowledge. Second, self-authorship, or the knowledge of one's self, has an underlying structure that is developmental in nature. As a person matures, the ability to know one's self-develops, changes, and matures as well.

The theory proposes three dimensions of self-authorship: epistemological/cognitive, intrapersonal, and interpersonal. The cognitive dimension employs meaning-making in ways that recognize the socially constructed and experiential nature of knowledge. The intrapersonal dimension considers our own personal beliefs, values, and goals, while the interpersonal dimension considers the same in others. Together, these three

areas provide insight into the nature of our knowledge, the roots of our personal philosophy, and the ways we relate to others.

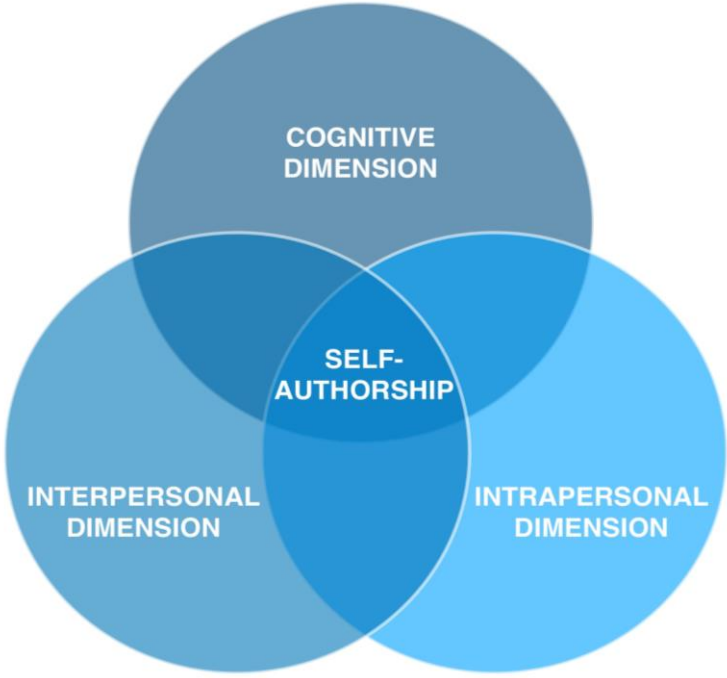


Figure 2.1 Self-Authorship Diagram

Temperament

> *One's temperament determines behavior, because a behavior is the instrument for getting us what we must have. Our behaviors cluster into activity patterns organized around themes of needs and core values specific to each temperament.*[1]

Temperament is one facet of our personality. It is habitual, often observable, and represents particular repeated patterns of behavior. It is the way we make decisions, communicate, and prioritize; it is our comfort zone. To explore temperament, UFMCS uses Personality Dimensions®. Rooted in Jungian Typology, Personality Dimensions® explores our preferences, needs (see Table 2.1), and orientation along a continuum

between introversion and extroversion.

Introversion involves:

- Directing our attention [energy] inward to internal stimuli.
- Thinking things through internally before we share any thoughts.
- Doing our best processing through quiet, individual contemplation.

Extroversion involves:

- Directing our attention [energy] outward for external stimuli.
- Thinking things through externally as we brainstorm out loud.
- Doing our best processing through collaborative group interaction.

Personality Dimensions®	**Needs**	**Value**
Inquiring Green	To achieve mastery; knowledge and competence	Concepts, theories, scientific inquiry, and consistent logic
Authentic Blue	To find significance and meaning; a unique identity	Harmony, cooperation, ethics, and authentic relationships
Organized Gold	To preserve the organism; procedures and responsibility	Belonging, stability, security, and group preservation duty
Resourceful Orange	To act in the moment; impact and expediency	Freedom, variety, adventure, and performance with skill

Table 2.1 Personality Dimensions Needs and Values

Complementing these dimensions, Linda Berens speaks to three layers of the self in *Understanding Yourself and Others: An Introduction to Temperament*.[2] The first and outermost is the contextual self, which examines how we prefer to act in the

moment of any given situation. The second is the developed self, representing behavior and skill we learn as we grow from those situations. The third and innermost layer is the core self, illustrated as genetic predispositions acquired at birth. Taken together, the models from Personality Dimensions® and Linda Berens provide a framework around which to build our understanding of the cognitive aspects of the Theory of Self-Authorship.

Emotional Intelligence

> *"Anyone can become angry, that is easy. But to be angry with the right person, to the right degree, at the right time, for the right purpose, and in the right way – that is not easy."*
>
> Aristotle

Emotional Intelligence is both the natural ability and the developed skills to recognize and understand emotions in one's self and in others. It also involves using this awareness to manage behavior and relationships. It affects critical thinking and decision making, as well as the navigation of social complexities.

The Emotional Intelligence Framework (see Figure 2.2), developed by Daniel Goleman, contains competencies in both personal and social realms. The personal competencies have two dimensions:

1. Self-Awareness of emotions as they occur and impact rational thought and influence personal outcomes.
2. Self-Management, or the ability and skill to identify and understand your emotional response to positively influence behavior, personal outcomes, work performance, and leadership, as well as to develop coping skills and resilience.

The social competencies also have two dimensions:

1. Social awareness developed through recognition of the emotions of others, which facilitates the development of cognitive empathy and the ability to understand another person's perspective. This is done through verbal interactions, active listening, and asking relevant, impactful questions, as well as by accurately interpreting non-verbal communications and cues.
2. Relationship Management, which occurs through accurately interpreting and interacting in social situations, networks, and systems. This involves the skills of persuasion, influence, and negotiation, as the practitioner works to facilitate cooperation, cohesion, and teamwork.

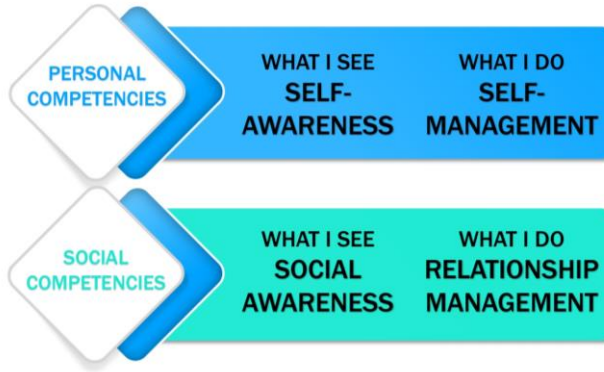


Figure 2.2 Emotional Intelligence Framework

Interpersonal Communication

Interpersonal communication is an exchange between two or more people conveying ideas, emotions, or information. This can be either verbal or nonverbal and includes semiotics. Interpersonal communication:

- Includes actions and ethics related to moral principles.
- Occurs between people who are themselves evolving and/or changing.

- Can attain mutual goals, when done intentionally; appropriate/effective.

For the Red Teamer, interpersonal communications go well beyond speaking, and relies heavily on three types of listening:

Strategic Listening is seeking information to facilitate choices or open a space for new ways of talking about a problem, using open and closed-ended questions [not a statement in the form of a question].

Use it when:

- Seeking clarification about the purpose of the interaction
- Shaping the outcome to accomplish your ends
- Thinking critically or solving a problem
- Fulfilling a role or responsibility

How to do it:

- Consider when to inject open and closed questioning
- Ask clarifying questions and offer paraphrases
- Weigh what is said against your goals
- Be on the lookout for discoveries

Empathic Listening is showing concern and identification in support of emotions. At the moment, it helps the person feel safe and understood. Its absence may suggest impatience, disinterest, or even dismissal.

Use it when:

- Trying to understand how your counterpart feels
- Trying to defuse strong emotions
- You are able to be sincere

How to do it:

- Ask indirect questions to echo pieces of what they say
- Don't interrupt, but murmur an emotional reaction
- Keep your eyes on the other's face (not just their mouth)
- Acknowledge their emotions

Active Listening is showing involvement and respect to foster social relationships. It is measured at the perceived quantity and quality of your interest. Its absence may show a lack of concern or importance.

Use it when:

- Complimenting strategic and empathetic listening
- Demonstrating that the topic and/or relationship matters

How to do it:

- Acknowledge what they are saying without interrupting
- Keep eye contact or your eyes on the other's face
- Expand on parts of what they are saying

Interpersonal Conflict

Competence in personality temperaments, emotional intelligence, and interpersonal communication are helpful safeguards when conflict arises. Managing conflict requires mutual participation but provides mutual benefit. Pausing to revisit ideas and reflect on similarities/differences between temperaments can reveal the relevant perceptions that led to conflict. The reflection in turn can be leveraged into bridging strategies that can help defuse the conflict.

Introspection

> *"Until you make the unconscious conscious, it will direct your life and you will call it fate."*

Carl Jung

Introspection allows us time to look inward, removing outside distractions, and consider ourselves, our thoughts, and our behavior. As practiced at UFMCS, it comprises daily journaling and the "Who Am I?" exercise.

Journaling is a fundamental requirement for UFMCS students. Daily reflection leads to written journals covering personal thoughts, discoveries, and questions, class topics, and an examination of applicability for each particular student. Entries reflect a deeper and more considered review of the day's topics; not a simple retelling of the day's events. It involves an emphasis on personal consciousness that is also paramount to critical thinking habits, and that is seldom explored in the normal course of a day. Time with personal thoughts/feelings often leads the writer to a synthesis with one's own life experiences, beliefs, attitudes, and values.

- What have I learned about myself or my emotional responses?
- What is my personal growth? Do I feel most proud/upset about?
- What topics/tasks did I respond to most easily/guardedly?

Who Am I? is an introspective exercise that works simultaneously on many levels. Participants take turns telling their story; an opportunity to practice active listening, deepen the understanding, and create an environment where alternate perspectives are valued, and successful listeners are ardently rewarded. Participants soon view themselves in a profound way, at a depth rarely welcomed in the military. Invariably, they find that they are not alone in coping with life's dilemmas.

As a result, participants feel significantly more connected to

the group and less alone in the world; a tremendous team building vehicle. The group learns about where others are coming from with ideas, values, and alternate perspectives. Participants are both liberated individually and bonded as a group.

Summary

Effective interpersonal communication will bring about more satisfying relationships and increase both personal and professional success.

Self-awareness is increased by reflecting and journaling daily, studying the Personality Dimensions model, and committing increased attention to interpersonal communication. Studying the four temperaments, identifying one's comfort zone, and examining preferences along the introversion/extroversion continuum will increase understanding of personal and social behavior. We have a better understanding of why and how we make decisions after careful thought and reflection regarding our personal needs, values, stressors, and biases.

Self-aware Red Teamers know that values, behaviors, beliefs, personal stories, motivations and goals differ from person to person. Most notably, he/she is mindful that how we see ourselves (what we say and what we do) may be quite different from how others perceive us, and vice versa. This Red Teamer also understands where they need improvement: empathy for others, critical thinking, interpersonal communication, cohesion within the group, etc.

As a self-aware individual, you are better equipped to:

- Optimize your interpersonal communication.
- Positively influence and persuade others.

- Leverage preferences, talents, and skills.
- Unravel gaps, differences, and conflicts.
- Appreciate and empathize with others.
- Consider others' perspectives.
- Think more broadly.

---

[1] David Keirsey and Marilyn Bates, *Please Understand Me: Character & Temperament Types, 3rd ed. (Del Mar, California: Prometheus Nemesis, 1984).*

[2] Linda V. Berens, *Understanding Yourself & Others: An introduction to the 4 Temperaments, 4th ed*. (Huntington Beach, California, 2010).

Chapter 3

Fostering Cultural Empathy

"Cultural analysis is intrinsically incomplete. And, worse than that, the more deeply it goes the less complete it is. It is a strange science whose most telling assertions are its most tremulously based, in which to get somewhere with the matter at hand is to intensify the suspicion, both your own and that of others, that you are not quite getting it right. But that, along with plaguing subtle people with obtuse questions, is what being an ethnographer is like."

Anthropologist Clifford Geertz, 1973

In the above passage from *The Interpretation of Cultures*, *Clifford Geertz* was describing what it is like to be an ethnographer, but he may just as well have been describing a Red Team tasked with a cultural analysis. A curious and skeptical disposition, rather than one of certainty, suits the Red Teamer. Cultural awareness means the discovery that there is no "normal" position in cultural matters.[1]

Cultural awareness is not the same thing as cultural sensitivity. The idea is not to escape or discard our own deeply held values, beliefs, and ideals, or to practice cultural relativism,

but to better understand the distinctions and similarities between our own and those held by others (both adversaries and allies) for the purpose of avoiding missteps in planning and policy formulation. Our methods and outcomes as military planners differ from those of the ethnographer or anthropologist in that our task is not only to observe, but also to plan and act upon our analysis.

Keep this caution in mind as you read this chapter and as you begin on any cultural examination: when we analyze another culture, we must do so with full consciousness that our vantage point lies outside of it. Moreover, the things we see are the things we most often attempt to manipulate. These things are the superficial edifices of culture. Real wisdom here is to gain an appreciation for the deep, unalterable foundations of culture, not to reconstruct it in the manner we desire.

> *"I don't think we should study things in isolation. I don't think a geographer is going to master anything, or an anthropologist is going to master anything, or a historian is going to master anything. I think it's a broad-based knowledge in all these areas, the ability to dissect a culture or an environment very carefully and know what questions to ask, although you might not be an expert in that culture, and to be able to pull it all together. Again, an intelligence analysis that isn't an order-of-battle, militarily oriented one, but one that pulls these factors together that you need to understand... "I mean, as simple as flora and fauna all the way up to basic geographic differences, environmental differences – cultural, religious and everything else. That becomes your life as a planner, or as the director of operations, and as the key decision maker."*
>
> General Anthony Zinni, 1998[2]

Understanding Culture for the Red Teamer

This chapter is about developing better questions

concerning culture, in order to facilitate planning, policy making, and strategic and operational decision making. These are informed by cultural empathy and enhanced by Red Teaming tools and a functional systems approach. Red Teaming methods and tools prevent us from accepting easy answers to hard questions about culture and its complexity. The functional systems approach enhances our ability to translate the abstractions and nuances of culture into doctrinal, and/or operational terms. To that end, we emphasize the following in our Red Teaming approach to cultural examination:

- Conscious examination of the roles of ethnocentrism vice cultural relativism
- Culturally-centric case studies
- Tools to foster empathy

Ethnocentrism

One aim of the Red Teaming cultural methodology is the reduction of blind ethnocentrism. Ethnocentrism, the belief that one's own culture is inherently superior to other cultures is a natural tendency of most individuals.[3] This problem exists in planning when the planner is so bound by their own culture as to be "blind to the ability to see the world through the eyes of another national or ethnic group."[4] Negative or distorted stereotypes too, are a challenge to complete cultural understanding as well. Stereotypes by themselves are not negative. At issue here is whether they are accurate or distorted. Distorted stereotypes are polarized, simplistic, and self-serving. Race and ethnicity are common characteristics that are historically susceptible to distorted stereotypes.

> *"Stereotyping is a process by which individuals are viewed as members of groups and the information that we have stored in our minds about the group is ascribed to the individual"*

Behavioral Scientist Taylor H. Cox, 1994[5]

Often, we tend toward oversimplification of cultural complexity in matters of planning. Our natural inclination is to construct simplified models of a complex reality in order to explain things. We develop simplified explanations based upon selected cultural aspects of the Operational Environment (OE) that facilitate our planning and desired end states. The tendency is to regard culture as a block, a category with geographic or ethnic boundaries, and not as the people, the individuals that makeup what is the human domain. For example, a simple answer to the question "Where is Mexico?" might be one that explains geographical boundaries, as on a political map. A more insightful answer is "It's where Mexicans are," or where Mexican food is, where "Mexican" Spanish language is spoken, or wherever Cinco de Mayo is celebrated, by whomever and for whatever reason. Cultures have social and psychological as well as geographical contexts. Culture's complexity is illustrated by the hundreds or perhaps even thousands of culturally learned identities, affiliations, and roles we each assume at one time or another. "Complexity involves the identification of multiple perspectives within and between individuals."[6] Multiple and alternative perspectives, better questions, and thinking more "complexly" is the aim of the Red Teaming approach to culture.

To that end, we adopt the position that the study of culture is "not an experimental science in search of law but an interpretive one in search of meaning."[7] There are several challenges to forming an interpretive approach to culture, but that is our aim. We seek an explanation that accounts for the occurrence of certain phenomena in culture, in a place, at a certain time, for a certain group, for the purpose of planning, policy formulation, and decision support.

Challenges to interpreting culture:

- Choosing apperceptive (conscious perception with full awareness) frameworks that are sufficiently rigorous without being reductive.
- Determining what cultural skills, a Red Teamer should have.
- Determining how best to introduce these skills in our practice.
- The most important aspects of multicultural awareness may be learned but cannot be taught.[8]
- Establishing favorable training conditions for multicultural awareness to occur and provide the necessary knowledge and skills.
- Defining "good cultural training" for Red Teamers.

> *"It is difficult to know the cultures of others until and unless you have an awareness of your own culturally learned assumptions as they control your life"*
>
> Psychologists Mary Connerley and Paul Pedersen, 2005

When seeking to interpret, understand, or analyze a culture, nothing is more essential than to realize the extent to which the interpretation is uniquely our own, with all the inherent and inescapable biases and ethnocentricity that comes with it. While we cannot completely escape our culturally learned ethnocentricity, there are tools, methods, and frameworks we employ to give us greater awareness of it and how it shapes our thinking and decision making.

There are many definitions of culture. Some are broad, general, and inclusive, while others are specific to the interest of the practitioner (ethnographer, social scientist, psychologist, warfighter, etc.).

Some Cultural Definitions

- "Whatever it is one has to know or believe in order to operate in a manner acceptable to its members."[9]
- "The webs of significance designed by men for themselves."[10]
- "The collective programming of the mind that distinguishes the members of one group or category of people from another."[11]
- Operational Culture: Those aspects of culture that influence the outcome of a military operation; conversely, the military actions that influence the culture of an area of operations (AO)."[12]
- "A theory on the way in which a group of people in fact behave."[13]

The key point to remember is it is all theory until you get there.

Culture…

- Is learned
- Is shared
- Changes over time
- Is not always rational to outsiders

There are several frameworks that attempt to capture aspects of culture for the purpose of studying them. These broad frameworks lay out major categories of cultural differences.

Differences of the various approaches relate directly to the purpose of the research. Cultural frameworks do not explain everything, but they still explain something, and our attention should be focused on isolating what that something is with regard to military planning.

There is no ideal framework or best way to classify a culture. Moreover, frameworks should not supplant a straightforward explanation. The Red Teamer should understand that

classifications and categories often only serve to provide a simplified basis for analysis. Opting for one categorization or framework over another not only determines the kind of questions we may ask but may obscure other important questions that should be asked. For this reason, Red Teamers should employ several frameworks or cultural "lenses" (like **4-Ways of Seeing**) when conducting cultural analysis.

Some Cultural Frameworks

1. PMESII-PT (Political, Military, Economic, Social, Information, Infrastructure, Physical Environment, and Time) is frequently used to organize militarily-relevant knowledge about a place, but it is not the only valid framework nor is it complete in and of itself. Frameworks of all kinds are artificial tools, not explanations for the way things really are in the society. Graduates are encouraged to ask themselves, "What is missing in an exclusively PMESII-PT analysis … does it cover the WILL of the people in question, does it fully address complex interaction between variables, etc.?"
2. Kluckhohn's Six Age-Old Dimensions of Culture:
    - The nature of people, good or bad?
    - The relationship between people and nature, Harmony or subjugation?
    - The relationship of people, individualism or Group?
    - The primary mode of activity, Being or Acting?
    - Conception of space, private or public?
    - Time orientation, past, present or future?
3. Nesbitt on Cognitive Differences:
    - Patterns of attention and perception

- Assumptions about the composition of the world
- Beliefs on controllability of the environment
- Assumptions about stability and change
- Preferred patterns of explanation of events
- Habits of organizing the world
- Use of formal logic rules
- Application of dialectical approaches

4. Hall on Communication Patterns:
    - Context, what must be explicitly stated?
    - Space, how much personal space is necessary?
    - Time, monochromic (events occur one at a time) or polychromic (simultaneity)
5. Hofstede's Country Profiles:
    - Power distance
    - Uncertainty avoidance
    - Individualism
    - Masculinity/femininity
    - Time Horizon
6. Five Operational Cultural Dimensions (from *Operational Culture for the Warfighter*[14]):
    - The Physical Environment
    - The Economy
    - The Social Structure
    - The Political Structure
    - Beliefs & Systems

In the end, the framework(s) we choose is/are based on what we want to know and what we plan to do. We want to gather not only analysis and facts but explanations that lead to

empathy/understanding that contribute to a methodological approach to operational design, joint and service military decision-making processes.

Every Red Teamer should possess a general OE knowledge of:

- Dimensions of Culture
- Aspects of National Culture
- Distinct motivational values born of cultural upbringing and context

Cultural Analysis for the Red Teamer

Red Teaming instruction at UFMCS focuses on culture at the general level of knowledge. Emphasis is placed on culture because culture was identified as a gap in the understanding of the OE during Operation Iraqi Freedom and Operation Enduring Freedom, and because culture is historically difficult to understand as its substance and significance is often abstract and not immediately observable.

The UFMCS Cultural Empathy curriculum includes lessons focused principally on four subject areas that are uniformly acknowledged in anthropological studies as foundational to any cultural study: social structure, politics (power and authority), economics, and religion (belief systems). The assumption is that to understand any one part of a culture or society we must look at all the rest of the socio-cultural context. The purpose of separating a society or culture into elemental parts or basic principles is not to isolate these elements, but to understand the nature of the whole.

General knowledge focuses learning about a complex OE on what is important for military planning and decision making. General knowledge is not concrete but an abstraction from experience - generalizations abstracted from multiple specific

cases. Generalization simplifies a complex reality - complexity that otherwise overwhelms our ability to understand. An example of a model or framework that serves to simplify and illustrate an otherwise complex cultural reality is *Hofstede's* Onion Model of Cultural Manifestations (see Figure 3.1).[15]

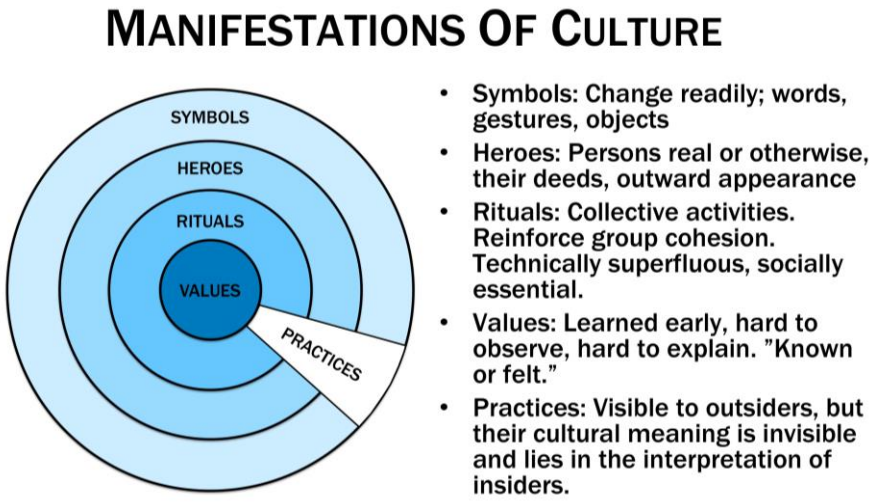


Figure 3.1 The Onion Model

When populated, this simple general model presents the Red Teamer with a cultural "…set of patterns, of and for behavior, prevalent among a group of human beings at a specified time period and which…presents…observable and sharp discontinuities."[16] Models like this one allow the Red Teamer to analyze what is the same, and what is different, the "sharp discontinuities" of the cultural context. It provides general categories and asset of patterns with which to begin a cultural examination of the OE that may be useful in the development of the Environmental frame of the design process.

Without general categories we easily get lost in the complexity of specific details. At the population level, the human domain is extremely complex and is continuously changing which makes analysis to identify what can be influenced to achieve the desired outcome intractable. There are too many interconnected variables—at some level most all variables are

connected—and causal relationships are constantly changing. This fact alone is enough to make planners take an essentialist view of culture, "It's always been that way with these people."

> *"To explain different patterns of culture we have to begin by assuming that human life is not merely random or capricious. Without this assumption, the temptation to give up when confronted with a stubbornly inscrutable custom or institution becomes irresistible"*
>
> Anthropologist Marvin Harris, 1989[17]

Organization of cultural information is more than simple aggregation or populating a rigid systems model with general information. Important nuances of culture may be missed in a simple aggregation and cannot be examined by looking only at institutional design. This is where Red Teaming may be useful in determining which information, general and specific, is contextually important in the design or planning process, and help us to avoid the temptation to "give up," or generalize in a stereotypical fashion.

The complexity of the human domain may be simplified by organizing specific information into general categories important for military operations. These general categories are based on what is important to know. At the highest level of organization for military operations, these general categories are the military operational variables, PMESII-PT. These categories simplify reality and provide a framework to focus collection of Regional Expertise and Culture (REC) specific information relevant for military analysis.

According to CJCSI 3126.01A, Language, Regional Expertise, and Culture (LREC) Capability Identification, Planning, and Sourcing, systems thinking is "Understanding how ...variables in the regional system interact with one another and change over time."[18] At the population level, it is an understanding of the interaction of variables across a population. Given complexity, as mentioned above, "systems thinking" is enabled by the simplification of reality into relevant general categories of variables. The task for Red Teamers is to render reality as

simple as possible, but no simpler, for the purpose of military planning. For this reason, a functional approach to cultural analysis of the OE is suggested as one approach the Red Teamer may take for the purpose of connecting cultural analysis to planning and operations. The following Functional Systems Approach to cultural analysis for planning is adapted from the USAFAS Regional Expertise and Culture Instructor Course (Pilot) developed by Dr. Daryl Liskey.

Functional Systems Approach

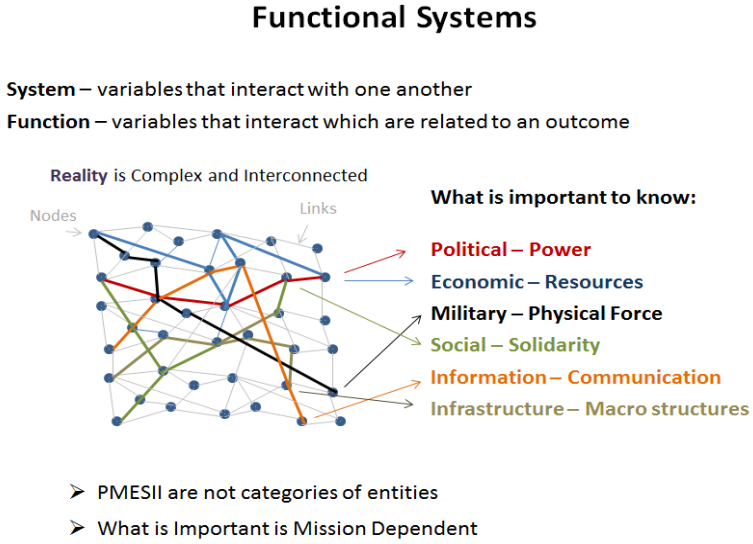


Figure 3.2 Functional Systems Approach

Functional System is an analytical approach to understand regular interacting relationships (links) and the associated entities (nodes) in an OE (see Figure 3.2 and JP 2 01.3).[19] It is an analytic device for separating from its context a set of phenomena we want to study. Anthropologist Ronald Cohen describes it this way:

> *The system as a whole does something. It can be characterized as having an activity or activities, and its various parts contribute to the fulfillment of these ends. Indeed, systems*

> *designers are quite clear on this point when they design systems, since they start with functions (emphasis added) and then work back to create a set of interrelationships that will, in fact, describe the carrying out of these ends.*[20]

How variables are related to produce a specific outcome is the definition of a function. The functional system consists of the regular patterns of interacting variables that cause the output. A functional systems approach is useful because it provides a systemic approach to analyzing interactions on what is important to know.

Keep in mind that the functional systems approach is not theory, nor is it doctrine. It is a method that links all aspects of cultural research together (Red Teaming, Design, LREC, PMESII-PT, etc.). It is but one of many methods that may be used to enhance apperception (conscious perception with full awareness). Its intended use is as a bridging device between Red Teaming analysis and doctrine. The goal of this approach is an accurate description of a culture, leading to an explanation, and ultimately better-informed planning and decision making.

The PMESII-PT systems (which the Army identifies as the Operational Variables) purport to identify the most important outputs or effects relevant for military operations in a typical country at the campaign level of planning. In functional terms, the Operational Variables are:

Political – power: how binding decisions are made

Military – physical force: how physical force is exercised

Economic – resources: how goods and services are produced, distributed, and consumed

Social – solidarity: how people interact in their everyday lives

Infrastructure – physical macro systems: how critical resources and activities move across man-made physical systems

Information – communications: how information is produced, distributed, and consumed

Physical environment: how geography, manmade structures, climate, and weather impact the operational environment

Time: how timing and duration are perceived by various actors

ADRP 5-0: "A functional understanding differs from but is consistent with the description of the operational variables in ADRP 5 and other Army and Joint Publications like JP 2-01.3."

At UFMCS, we include Religion, or belief systems, as a function.

In general, the PMESII-PT variables are important functions of any population, which is well established in the academic literature. A PMESII-PT systems approach can be used across the levels of war: a village, for example, may be usefully analyzed in terms of a PMESII-PT framework for missions that cross the full range of military operations.

Caveats: In general, a PMESII-PT Operational Variables approach is consistent with a functional systems approach given two caveats:

1. **PMESII-PT is not meant to be stand-alone descriptive bins for categorizing entities (e.g., persons or institutions).**

    a. In other words, it is unnecessary to think of any element of the system as a compartmentalized function which must be sharply separated from its context. A

single entity or institution may be important across the PMESII-PT operational variables, i.e., a sheik may be an important factor in an analysis of power, force, resources, and solidarity of a tribe. If the sheik is categorized as a social factor but not a political factor, then the analysis of power misses an important aspect. In complex societies, institutions may be structured to perform a single specialized function, i.e., a business enterprise to perform an economic function or a government to perform a political function. However, a political analysis of American politics can include military, economic, and social institutions as important variables. If economic institutions are walled off from political, then the analysis will be partial or biased and unlikely to accurately estimate the effect.

2. **Mission Dependent: Which functions are important in a particular military mission differ depending on the mission.**

a. As noted in JP 2 01.3, Joint Intelligence Preparation of the OE, for more-focused military operations a full analysis of the PMESII-PT is not needed. As, in governance operations, analysis of the political system can be the most useful (keeping in mind that PMESII-PT are not descriptive categories) while military force-on-force operations the analysis of the Military system is likely the most useful.

By now we have established that there are several frameworks, procedures, and models by which to examine culture. Whatever design we decide upon is dependent on the answer to four critical questions (adapted from Keesing, 1970):

1. What will be the shape and design of the cultural description?

2. What is the relation of such a cultural description to the overall goals of the military plan or decision?
3. How is the adequacy of the description to be evaluated?
4. What evidence is there that the descriptions we have sketched will be productive?

The purpose of these questions is to explain culture to what end? What is the connection? And the answers to these questions are critically important in determining the validity of whatever cultural framework, process or model we choose. The answer must be better understanding to inform the planning process.

The human domain is infinitely complex. It pushes back, evolves, and changes rapidly and unpredictably. We currently lack sufficient analytical power to reliably understand functions in the human domain in the same way we can in the biological or engineering domains. Institutions can be engineered to perform a function, but the OE outside of institutions are more complex. Rather, Red Teaming tools and a functional approach to the human domain generate research questions that focus the purpose for an analysis and what casual relationships are important. Given a certain question, we structure research areas by identifying what is necessary to answer the question based on our general knowledge. To the extent that general knowledge is true, the categories and relationships will be true. It provides our "best initial guess" which is preferable to the alternatives. The **Critical Variables**, **Cultural Perceptions Framework**, **Onion Model**, and **Six Empathetic Questions** are useful Red Teaming tools in generating questions and categories that support the functional systems approach and in generating broader understanding (empathy) and alternative perspectives for cultural analysis.

There are three important advantages of a functional approach:

- **Focuses Analysis on Outcomes and Effects**: Observing entities alone can tell us little about what is important for outcomes like power (control). A local government official or sheik may not be an important variable. In a village, the priest or large landowner may exercise more power. Or, power, more likely, is distributed throughout a functional political system. By understanding the functional system, entities or relationships can be identified that are important for causing an outcome. Systemic functional analysis increases the likelihood of developing course of action (COA) that will achieve a desired effect.
- **Identifies what is important across specific areas**: A functional approach also enables a Regional Expertise and Culture-general understanding applicable across any area. Understanding key specific functional relationships like decision making, execution, and enforcement enables identification of the specific institutions across specific regions or systems. The specific institutional form can vary greatly: the ultimate decision-making function can be exercised by Congress in the United States, the Central Committee in the People's Republic of China, or the supreme religious leader in Iran. It may also be shared among different institutions to varying degrees. Understanding of functions provides general knowledge of what is important across specific areas where institutional form can vary widely.
- **Synchronizes knowledge and analysis across echelons**: Specific forms of institutions also vary across echelons within an AO. For example, political parties may have a national level organization, linked to regional political groups, which in turn are linked to local informal power holders in a village. A functional analysis enables an understanding of vertical as well as horizontal system

relationships related to outcomes despite specific differences in form. This enables an analysis of how one level affects the other as well as enabling the aggregation of information and analysis across echelons.

Cultural Relevance

A few rules of thumb apply to recognize when culture may be more important:

Greater Cultural Differences: Culture is more important when cultures differ from our own. In countries like Afghanistan, these differences can be marked and more important than institutional considerations. In more Westernized cultures, cultural differences may be few and institutional differences will matter more.

Unstable Countries: Where institutions are weak or are collapsing, cultural ties are relatively more important and can become a critical source of conflict as well as resilience.

Marked Differences within a Country: The cultures within a country can vary markedly. The culture in rural areas is less Westernized compared to major urban areas and the culture can vary from area to area within a country. Differences in culture can produce strong cultural dynamics within a country even in highly institutionalized Western countries and these dynamics can be critical for Western countries.

Additionally, culture can be a more critical consideration in Inform and Influence Activities and, at the individual and organizational levels, operating with JIIM partners.

Summary

Anthropology is about observation, collection, and cross-cultural comparisons. Military planning is oriented toward action and exhibits a bias toward a particular type of action

(security, stability, decisive action, etc.). The processes of military planning can have a dramatic effect on the goals of those actions. Red Teaming is about apperception, theory construction and testing. These fields frequently overlap but tend to use different methodologies and techniques. Red Teaming aims at improving cultural understanding with the goal of enhancing the chances of successful outcomes in military planning. In the case of cultural empathy, it is about explanations of the relationships of cultural functions. Red Teaming represents a methodology, and the approach affects the method. The order of application reflects a strategy. The aim of the strategy is the support of operational planning in the form of Design and MDMP. The following are some thoughts for the Red Teamer to keep in mind when conducting cultural analysis:

- The study of culture is not performed in isolation. It is only meaningful when regarded as part of a larger body of thought (e.g., strategy, design, campaign planning).
- Cultural analysis is part of the larger intellectual process of warfighting and peacekeeping.
- The tendency to depend on one authority, one theory, or one approach to cultural apperception is extremely dangerous in military planning.
- Red Teaming cultural methodology is not a new way of knowing—it is a systematized approach—a synthesis of several works.
- A functional systems approach is useful because it provides a systemic way to analyze what is important to know about the OE.
- Red Teaming methodology does not produce solutions, but insights that inform planning—a logic of inquiry.
- The aim is to avoid spurious correlations and conclusions.

- The goal is to make sense of—or meaning of—what goes on in a particular cultural milieu; for that time, and in that context, for the purpose of planning and policy making.
- The Red Teaming cultural methodology aims to inventory and understand a people and their motivations at a level of general knowledge for the purpose of resolving conflict or avoiding violence.
- The goal of general knowledge is not prediction per se but understanding in order to control and influence the outcomes we desire in military operations.

And finally, some observations on "why we study culture" from Dr. Geoff Demarest[21]:

1. To find people and things. Cultural knowledge helps locate individuals, their wealth and their supporters. 'Locate' means establish their precise whereabouts -- where they will sleep tonight, where their mother is buried, the number of their bank account and the bank routing number, where their motorcycle is sitting, their email address, where and when they play golf…and where they feel safe. For the competitor in a violent struggle this is the first and most compelling reason for cultural knowledge. It is what Sam Spade, the private investigator, knows. The rest is useful, too, but if he knows where you are while you don't know where he is, you are the prey. To control anonymity, you must know the culture.
2. To communicate well. Cultural knowledge can improve communications with others so as to endear and not offend, to facilitate collaboration and compromise, and to settle disputes peacefully when preferable. This involves language beyond the verbal, and into customs, prejudices, habits, mores, expectations, fears, historical grievances, community pride and the like. All knowledge is grist to the

mill. It will be especially productive to identify aspects of the culture related to honor and dishonor.

3. To identify objects of desire, sources and holders of power, grievances, agents (especially 'exclusive' agents), resolution mechanisms, debts, tax relationships, jurisdictions and expectations. In short, to comprehend the territorial geography of conflict and conflict resolution.

4. To set reasonable objectives. Knowing how or if to change the social compact, how long it might reasonably take you to implement such a change, and how long the changes might last. This may include determining the interrelationship between peoples' behaviors and their surrounding environment in order to derive durable improvements in human flourishing and harmony. When good intentions are not built on sufficient knowledge, the reward may be a set of nasty unintended consequences. In a domestic legal setting we demand due diligence of doctors and lawyers - that they avoid negligent practice. Strategic due diligence presupposes the programmed and resourced study of foreign cultures in order to avoid strategic negligence.

5. To put things in the right places. Whether you want to optimally place a fish pond, police station, camera, or a shooter, it is local cultural knowledge (and usually the kind that cannot be gained via remote sensing) that will guide best.

6. To correctly time actions and activities. Knowing when to act and not act is a much easier standard if we are steeped in local cultural knowledge.

7. To get the joke. Jokes work the same mental pathways as military deceptions. For practical purposes, military deceptions are jokes. Irregular armed conflicts are

generally clothed in law, economics, propaganda and other aspects of quotidian, civilian life. Not being able to get civilian jokes means being vulnerable to the dangerous military or criminal ones. Just as the insurgent can move from military uniform to civilian attire, so can military thought hide in civilian guise.

---

[1] Clifford Geertz, *The Interpretation of Cultures (New York: Basic Books, 1973).*

[2] Anthony Zinni, *"Non-Traditional Military Missions in Capital "W" War: A Case for Strategic Principles of War* (Quantico, VA: Marine Corps University, 1998), 282.

[3] Haight, G. "Managing Diversity." *Across the Board* 27, no. 3 (1990): 22.

[4] Ken Booth, *Strategy and Ethnocentrism, (*New York: Holmes & Meier, 1979), 15.

[5] Taylor Cox, *Cultural Diversity in Organizations: Theory, Research, and Practice, (*San Francisco, Calif.: Berrett-Koehler, 1993), 88.

[6] Mary L. Connerley and Paul Pedersen, *Leadership in a Diverse and Multicultural Environment: Developing Awareness, Knowledge, and Skills* (Thousand Oaks: Sage Publications, 2005), 29.

[7] Geertz, *The Interpretation of Cultures,* 5.

[8] Mary Connerley and Paul Pedersen, *Leadership in a Diverse and Multicultural Environment: Developing Awareness, Knowledge, and Skills* (Thousand Oaks: Sage Publications, 2005), xii.

[9] Ward Hunt Goodenough, *Culture, Language, and Society,* 2d ed., (Menlo Park: Benjamin/Cummings Pub., 1981), 109.

[10] Geertz, *Interpretation of Cultures,* 5.

[11] Geert H. Hofstede and Gert Jan Hofstede, *Cultures and Organizations: Software of the Mind: Intercultural Cooperation and Its Importance for Survival,* Rev. and Expanded 3rd ed., (New York: McGraw-Hill, 2010), 6.

[12] Barak A. Salmoni and Paula Eber, *Operational Culture for the Warfighter: Principles and Applications,* (Washington, DC: Marine Corps University, 2011), 15.

[13] Florence Rockwood Kluckhohn and Fred L. Strodtbeck, *Variations in Value Orientations, (*Evanston: Row, Peterson, 1961), 7.

[14] Barak A. Salmoni and Paula Holmes-Eber, *Operational Culture for the Warfighter: Principles and Applications, 2nd ed*. (Washington, DC:

Marine Corps University).

[15] Hofstede, *Cultures and Organizations*, 8.

[16] Claude Levi-Strauss, *The Elementary Structures of Kinship*. (Boston: Beacon Press, 1967), 10.

[17] Marvin Harris, *Cows, Pigs, Wars & Witches: The Riddles of Culture*, (New York: Random House, 1989), 4.

[18] CJCSI 3126.01A. *Language, Regional Expertise, and Culture (LREC) Capability Identification, Planning and Sourcing*, H-1.

[19] JP 2-01.3, *Joint Intelligence Preparation of the Operational Environment*, (21 May 2014).

[20] Ronald Cohen, "The Political System," in A Handbook of Method in Cultural Anthropology, eds. Raoul Naroll and Ronald Cohen, pp. 484-499. New York & London: Columbia Press, 1970.

[21] Geoffrey Demarest, *Winning Irregular War*. Leavenworth, Kansas: Foreign Military Studies Office, 2014, pp. 153-154.

Chapter 4

Applied Critical Thinking

Human beings think almost every waking minute; in fact, it can actually be harder to clear our minds and not think. Considering the huge amount of experience this gives us with the act of thinking, it should be surprising how often our thoughts lead us astray. We make unfounded assumptions, take mental shortcuts, and allow biases to hijack logic, all leading to decisions and actions that fail to satisfy our needs and wishes. By applying a level of criticality to the thinking process, Red Teaming helps not only to improve our decision-making processes, but also to improve the clarity of our worldview.

What is Applied Critical Thinking?

Psychologists and researchers have devoted a wide range of books and articles to the subject of critical thinking, and often debate the best definition for the term. While UFMCS uses and references many of those resources, they are not required for a basic understanding of the subject. As taught at UFMCS, Applied Critical Thinking (ACT) is the sum of the words. We think all the

time, so we can understand the mental process of making sense of the world around us, both the way we perceive it and the way we would like it to be. Being critical about that process means intentionally analyzing the merits and faults of those thoughts, to include evaluating our reasoning and logical processes. We apply the whole process by injecting the critical analysis of thought into our decision making to ensure sound, justifiable decisions. Putting these together, we can informally describe ACT as the deliberate process of analyzing and evaluating the way we perceive and interpret the world around us, performed to improve our understanding and decision making. It includes the key practice of making the implicit (our unseen and unexamined thoughts and beliefs) explicit so that we can judge their value and suitability to the situation.

For a more advanced understanding, we turn to our official definition:

> *Applied Critical Thinking (ACT) is the deliberate process of applying tools and methodologies to critically review problems by "asking better questions," such as deconstructing arguments, examining analogies, challenging assumptions, and exploring alternatives. Effective employment of ACT tools and methodologies cannot occur without self-awareness of one's own cognition, as how one "thinks about thinking": understanding biases, perception/interpretation, mental models, framing, and worldviews.*

The Time Factor

Describing ACT as a process can seem problematic at first. Many of our most important decisions, including those for which we have the greatest need for ACT, occur in time-sensitive environments. We speed toward events, knowing we have to make the correct decision before we reach a stage at which the

decision is overcome by events. In such a setting, it is easy to imagine there is no time to insert an additional process. The answer to this dilemma involves two parts: first, UFMCS provides reflexive ways to evaluate and adjust thinking that becomes natural with practice; and second, we provide structured tools designed to fit within time constraints while supporting ACT.

To make critical thinking reflexive or intuitive, we should first consider the common ways our brains approach thought. Most situations we face have some time constraint, whether explicit, implicit, or self-imposed. An explicit example might be a timed test or a work deadline; there is a distinct, known point at which the input is due. In an implicit case, there is still a time by which input is required, but the time has some sense of vagueness; consider the example of how long to wait before calling after a first date or a job interview. A self-imposed deadline can often be seen in the case of deciding when to purchase a vehicle. The important commonality in all these cases is that time matters, and it is often in short supply.

Thinking as often as we do and experiencing a range of scenarios in which time is limited, humans have developed shortcuts for the thinking process. We will often face situations in which we lack the information needed to make a good decision, but because of time constraints, our minds fill in a hopefully suitable representation for the missing data. In other words, we make assumptions. We also find circumstances in which events either mirror or conflict with our beliefs, and we pass judgment based on that agreement or disagreement in the form of biases (see Figure 4.1). That initial belief often lies below the surface, and only shows itself through our actions. Another time-saving thought process involves heuristics, or mental shortcuts that tell us to expect a certain outcome any time we

see a specific known behavior. Finally, we react to time constraints by settling, accepting a solution as good enough given the time available, even though we might prefer a different outcome.

Recency Bias – the expectation that events and trends that have occurred recently will have a higher likelihood of recurring or continuing

Mirror Imaging – the expectation that others will think and act like us despite having

Figure 4.1 Examples of Bias

Time for Red Teaming

With the understanding that we learned these behaviors, it is logical that in most cases we can learn to counter them. In cases where shortcuts are required, we can learn to use better ones. To address assumptions, for example, Red Teamers consider frames and mental models to establish an understanding of a person's point of view and belief system. Through repetition and comfort with tools like **Frame Audits** and **5 Whys**, a Red Teamer can rapidly examine a thinking process, highlight potential issues, and suggest techniques or apply tools that could provide more satisfactory outcomes.

That same repetition and comfort with thinking differently strengthens a Red Teamer's awareness, improving perception and increasing the likelihood of noticing things others might not. One of the most common events Red Teamers identify and challenge using ACT is "cognitive autopilot", meaning doing that which is mentally easy and/or familiar. For example, we often find that in response to a notional problem A, we automatically respond with solution B. Sometimes that works, but other times it might not. Because of the complexity of the world around us,

multiple instances of problem A might not always have the same cause or characteristics. That means we are failing to notice that we are not actually dealing with exactly the same problem, and therefore the exact same solution will not work. By using ACT skills and tools to identify the often-subtle differences between problems, we can alter our responses and apply more appropriate and effective solutions. As an added benefit, ACT also helps us avoid the undesired second-order effects that might spring from an imperfect solution.

Creating Space and Time

When there is time for a Red Teamer to perform structured group facilitation in support of ACT, practitioners can call on a wide range of tools with which to address the situation. Even in cases of formal decision-making or planning processes, in which the process requires questions at various points, Red Teams can help ensure participants are asking the right questions from the right points of view. For example, a group might ask, "Is a foreign military formation behaving in a threatening manner?" As military members directly opposed to that formation, troop movements might make it easy for us to respond in the affirmative and recommend action. As Red Teamers, however, we could use ACT tools like **4 Ways of Seeing** to determine if there are other reasons for the behavior, or tools like **6 Empathetic Questions** to examine motivation and highlight potential misunderstanding. On the other hand, the same tools used to examine seemingly mundane activity might reveal deception and a previously unseen threat.

The disconnect between behavior and perception, e.g., whether a certain behavior should be considered threatening, is often caused by differences in how we see the world, and how we expect the world to work. These viewpoints and beliefs are often characterized as frames and mental models but can also

be attributed to cultural differences. Using the cognitive autopilot discussed earlier, it would be easy to assume that everyone has the same values, beliefs, and desires that we do, but that conclusion would not stand up if we were thinking critically. Every person we encounter, whether a family member or military adversary, has a unique lifetime of experiences that shape their perception and beliefs. No two people have exactly the same experience, so no two people see the world exactly the same way. As human beings, we tend to group with those like us, but it is critical to realize that like us does not mean exactly the same as us.

With this understanding, Red Teamers use tools to create distance from the problem and allow themselves and others to adopt different perspectives to evaluate understanding. ACT tools like the **Onion Model** provide our minds freedom of maneuver to deconstruct culture, decipher explicit behavior, and reveal implicit belief and motivation. While this activity serves as a core component of the Red Teaming principle of Fostering Cultural Empathy, it also serves the principle of ACT by helping critically deconstruct assumptions and beliefs about others. Chief among these challenged assumptions is the idea that all members of a common group are the same; ACT combats this by suspending judgment while identifying the things that make people different using tools like **Stakeholder Mapping**, and then considering how those differences impact the situation.

In cases where answers remain hidden, Red Teamers explore alternatives. When an answer presents itself, Red Teamers practice healthy skepticism and continue to diverge, understanding that the first answer is often the easy one, and the easy answer is rarely the right one. Tools like **Brainstorming** and **Circle of Voices** facilitate divergence. Once sufficient divergence has occurred, Red Teamers apply further tools like **Dot Voting** to converge on appropriate solutions. With

this structure, they facilitate the collection of a wide range of solutions, then logically and critically narrow those solutions to find the ones that best suit the situation and the desired outcome.

Combining these activities and practicing them in a deliberate manner provides the opportunity to adjust our way of thinking concerning how we see ourselves, how we see the world, and what might be possible in the future. That altered and improved worldview, supported by Red Teaming techniques and tools, enhances our understanding of the operating environment and the involved stakeholders. Understanding that we are always thinking, judging, and deciding, ACT allows us to think more critically, judge more accurately, and decide more favorably.

Summary

Red Teams use structured tools and techniques to perform and facilitate Applied Critical Thinking. They do this by analyzing and evaluating perception and interpretation, with the goal of improving understanding and decision making. Due to time constraints in the decision-making process, Red Teamers internalize ACT principles when possible to make them second nature, as well as tailor activities to match the time available. During this practice, we identify assumptions, biases, and instances of cognitive autopilot, making the implicit explicit and guiding groups through exercises to improve understanding and outcomes. Finally, Red Teams help groups explore and evaluate alternatives, revealing previously unseen possibilities and providing freedom of maneuver.

Chapter 5

Groupthink Mitigation and Decision Support

Organizational decisions, though normally made by a single person, are often based on the input and support of groups of people. Commanders weigh the input of their staff when making decisions and executives consider advice from their senior managers. The dynamics of such groups directly impact the quality of the information they provide, and consequently weigh on the decision's outcome. Red Teaming addresses the group dynamics and issues in decision-making activities present in these scenarios through the principle of Groupthink Mitigation (GTM) and Decision Support.

Group Dynamics and Groupthink

The benefit of using a group for Decision Support lies in the varied experience, knowledge, and perspectives of the participants; a group will naturally have a wider range of these elements than would a single person. As discussed in previous chapters, considering alternative perspectives and approaching problems from multiple directions leads to better

understanding and better decisions. A collection of people employing good group dynamics is well-suited to provide exactly this to a decision maker, but group dynamics is often precisely what gets Red Teamers into trouble. The problem, at least in part, lies in the human affinity for grouping and hierarchy.

Categorization and ranking are inherent parts of Western culture. We group similar things, then establish a hierarchy to determine relative merit. This behavior is particularly prevalent any time people gather in groups; we naturally and automatically identify subgroups and arrange people by seniority, importance, or other categories. Perhaps nowhere is this more prevalent than in the military, where we categorize by service, branch, unit, staff section, etc., and prioritize by the rank clearly displayed on a member's uniform. Though this behavior helps us to understand the elements of our environment and our comparative place in it, this categorization can directly harm the effective group dynamics required for providing Decision Support.

Psychologist Irving Janis noted that such behavior is so common and harmful that he popularized the term "groupthink" to describe what often happens when we join together. Groupthink comprises multiple elements, all of which can contribute to unsatisfactory outcomes. First, the forming of a group can immediately create an "us-against-them" mentality. This leads to both an often-unfounded sense of moral and intellectual superiority for group members and a sense of pressure toward conformity and uniformity for members. Rather than exploiting the range of knowledge, experience, and viewpoints mentioned earlier to generate multiple options, this pressure artificially drives group members to agree on a single line of reasoning. It also impacts the group's perception of adversaries by assuming they have the same level of group

conformity; misperception can be particularly harmful when a single person displays hostility. In such a case, a group can incorrectly assume hostility from all members of the adversarial group, leading to unnecessary conflict.

A second issue of groupthink presents itself in actual and perceived hierarchy. Few people willingly and openly challenge their superiors in a group setting, as disagreeing with your boss can be detrimental to your career. In other instances, senior individuals establish themselves as "mind guards" and prevent the group from following certain lines of reasoning, therefore limiting the divergence that might be required to find a suitable solution. Likewise, groups can evolve into a hierarchy of extroverts and introverts, with the former dominating the conversation while the latter's ideas remain unspoken. Whether the censorship of people and ideas is directed or self-imposed, it always limits and sometimes destroys the effectiveness of the group.

Harmful group dynamics and groupthink can also set the stage for the "everyone knows" phenomenon. Whether presented by a senior member or a forceful personality, statements like, "We can all agree that…" and "Everyone knows that…" typically shut down questions or conversation of alternatives, even when people do not agree. Group members often choose to avoid challenging such statements in the belief that doing so would be ineffective or would derail the group's progress. In either case, valuable opinions and information remain unspoken while the group drives on unaware.

Groupthink Mitigation

To combat such behavior and support better decision making, Red Teamers practice Groupthink Mitigation. This act helps groups establish dynamics more conducive to the free

flow and sharing of information and the generation of quality alternatives.

> *Groupthink Mitigation (GTM) is the application of tools designed to foster divergent thinking during problem solving by including the perspectives of every member of the group before converging on a course of action. Inherent in the GTM techniques are the requirements of the individual to consider and record their thoughts before group engagement and use anonymity to encourage feedback.*

GTM fundamentals include countering hierarchy, exploiting anonymity, and providing time and space.

To counter the negative aspects of hierarchy, Red Teamers focus on removing the fear of recrimination and embracing the democratization of thought. Anyone can have a good idea, but that is of little value if the person is afraid to speak up. In cases where participants are willing to share, but simply afraid of contradicting superiors, Red Teamers use tools like **Circle of Voices** to solicit input, combined with the strategy of starting with the most junior group member and moving up in rank. This provides an opportunity to hear honest opinions that have not been influenced by statements from senior members.

In cases where group members still resist providing information, or where senior members automatically prefer the opinions of certain individuals over those of others, anonymity becomes a useful approach. Participants are freed to diverge and present ideas outside the realm of the expected, which often opens new and useful avenues to address the problem. Red Teamers accomplish anonymity by employing tools like **5 Will Get You 25** or by soliciting written information from group members and sharing without attributing sources. Such methods allow groups to discuss ideas without attaching them

to personalities or positions, and therefore evaluate them purely on the merits of the idea. Anonymity also helps avoid peer pressure, as it forces participants to generate their own ideas without knowing what others will provide.

Personality and temperament can also present challenges in a group setting, which Red Teamers counter by providing space. While some people enjoy aggressively attacking problems in a group setting, others prefer to contemplate the problems and think them through fully before discussing. For these scenarios, Red Teams leverage awareness of such preferences to identify those people and ensure they have an opportunity to contribute by using tools like **Think-Write-Share** or **Think-Draw-Share** and intentionally allowing time before requesting input.

Decision Support

The combination of GTM tools and techniques improves group dynamics and restores the value of having a range of participants in a group. Once a group overcomes the natural predilection toward groupthink, Red Teamers leverage the knowledge and expertise of the group members to facilitate divergence. As discussed earlier, variety of experience, knowledge, and perspective helps a group provide higher quality support to decision makers. Divergence continues that variety by allowing members to explore a range of non-intuitive ideas and previously unrecognized options. Tools like **Brainstorming** and **Mind Mapping** contribute to this first part of the **Ideal Group Process**, focusing on generating options without passing judgment.

After a period of initial debate on the divergent ideas, the process continues to convergence. In this phase, Red Teamers help groups evaluate the merits and applicability of the generated ideas using tools like **Dot Voting**. While providing a

decision maker with options can be beneficial, providing too many options becomes overwhelming and counterproductive. Convergence ensures the best of the generated ideas make their way to the top, to present the decision maker with options the group determines are most appropriate to the situation and most likely to accomplish the desired results.

Summary

Groups often provide decision makers with a wide range of experience, knowledge, and perspectives on which to rely, but group dynamics and groupthink can sabotage that effort. This typically happens because of categorization and hierarchy. Red Teamers apply tools and facilitate groups to mitigate these issues and empower all group members to participate. Once the group is functioning properly, structured approaches support divergence of thought to generate alternatives and convergence to narrow those alternatives to the best options to support the decision-making process.

Chapter 6

Thinking Creatively

"The only thing harder than getting a new idea into the military mind is getting an old one out."

Basil Liddell Hart, Thoughts on War, 1944

The ability to think creatively, that is, the ability and disposition to generate ideas that are both new and useful, is very important for military leaders, teams, and staffs. However, many aspects of military culture tend to impede creative thinking. Some of the barriers to creative thinking include time pressures, hierarchical structures, emphasis on uniformity and training standards, and a predilection for risk avoidance due to the potential for severely negative outcomes of flawed decisions.

The Creative Thought Process

The thoughts and actions by which people generate novel and adaptive ideas can be modeled by a 5-stage process. Although the linear model depicted below is a useful tool for describing and understanding how creative ideas are generated, in actual inventive situations the stages of the process tend to

blend together, and the progression is iterative and nonlinear.

Stage 1: Problem-Finding

The first stage in the creative thought process is **problem-finding** (see Figure 6.1). Many successful innovators believe that this is the most crucial stage of the process.[1] The key in this stage is to see beyond the symptoms and gain an understanding of the underlying or root causes of the problem, and how the current situation differs from the desired state.

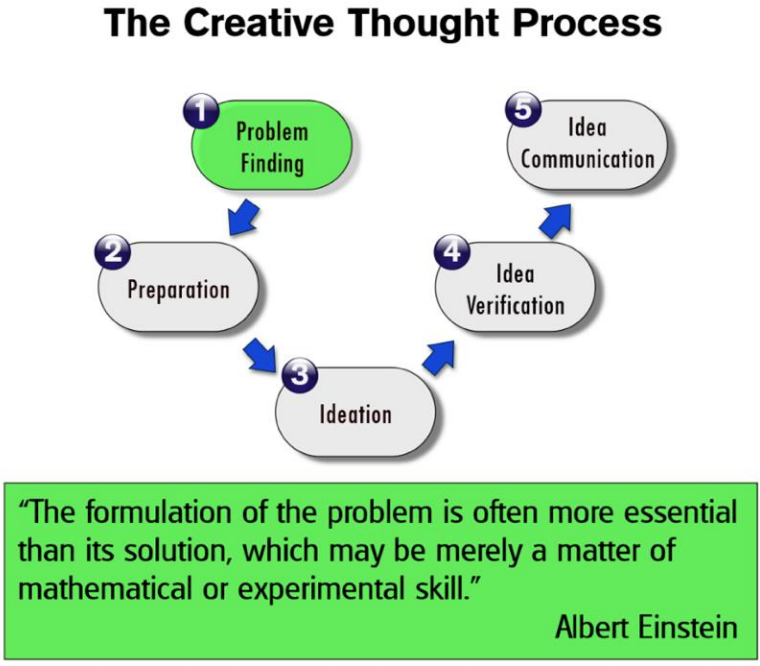


Figure 6.1 Creative Thought Process - Problem Finding

Effective **problem-finding** can be very difficult when facing complex or unstructured problems. Additionally, when teams conduct **problem-finding** in organizational settings, they often face significant challenges such as groupthink, confirmation bias, motivated reasoning, and egocentrism.

Red Team Tools:

Red Teamers can greatly assist leaders during this stage of the creative thought process by using Red Team Tools, especially:

Shifting the Burden **Stakeholder Mapping**

Problem Framing **Cultural Perception Framework**

4 Ways of Seeing **5 Whys**

Analysis of Competing Hypotheses

*__Alternative Futures Analysis__ is also a very useful way for leaders to anticipate and prevent future problems.

Stage 2: Preparation

After finding the problem, the team immerses itself in the problem. During the **preparation** stage (see Figure 6.2), the team typically tries all previously known solutions. If they discover a solution that works during this initial search, they apply the solution and move on, especially in time-sensitive situations.

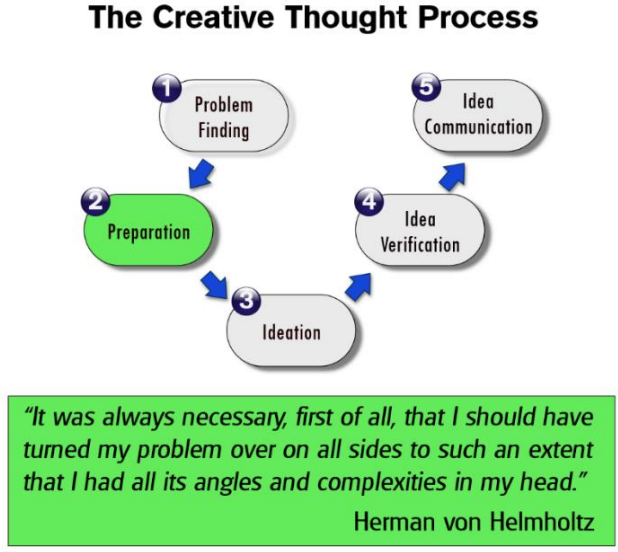


Figure 6.2 Creative Thought Process - Preparation

The goal during **preparation** is to learn as much as possible about the problem, the context, and even how similar problems have been solved in different domains. There are also significant challenges to teams in this stage, including:

1. The tendency to interpret the situation in such a way as to erroneously identify the problem to be like one that they have previously experienced and to which they have a known solution
2. The tendency to over-simplify complex problems
3. The tendency for groupthink
4. Failure to challenge, or even to be aware of assumptions
5. The tendency to minimize or deny the presence of problems in order to avoid blame or the appearance of weakness / ignorance

Red Team Tools:

Red Teamers can assist leaders and teams during the **preparation** stage using Red Team tools such as:

Key Assumptions Check **Fishbowl**

Think -Write- Share **5 Whys**

The **preparation** stage continues until the team either finds a potential applicable solution to try or ceases mental work on the problem.

Stage 3: Ideation

The third stage of the creative thought process, **ideation**, is probably the stage most often associated with creativity (see Figure 6.3). This stage also is an individual action. Even when the planning or problem solving is conducted collaboratively by a team, the initial creative insight occurs to a single person. Having said that, working collaboratively in the **preparation** stage can significantly increase the chances of any individual in

the group experiencing a creative insight, especially in teams comprising people with diverse perspectives, experiences, and areas of expertise.

Beginning with Graham Wallas' book, The Art of Thought published in 1926, there has been a widely accepted notion that the **ideation** stage consists of: Step 1 – **Incubation**, Step 2 – **Illumination**.

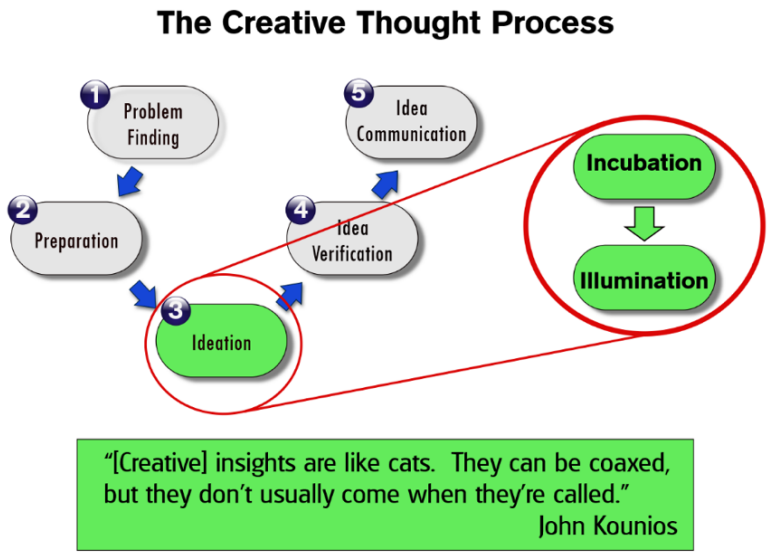


Figure 6.3 Creative Thought Process - Ideation

Incubation begins when the leader or team working on the problem puts the problem aside and either begins deliberate work on a different problem or enters a state of cognitive relaxation. Although creative insights rarely occur while the person is studying and actively thinking about the problem (the **preparation** stage), they are much more likely to occur if the **preparation** stage was thorough, and the person consciously thought about the problem in detail and from different perspectives.

At some point during the **incubation** stage, an insight

comes to mind, often suddenly. This is the **illumination**. One of the best, accounts of the **incubation – illumination** stages was from German Scientist and prolific inventor, Herman von Helmholtz, who said during a speech,

> *"Often… [ideas] appeared without any effort on my part, like an inspiration. They never came to a fatigued brain and never at the writing desk. It was always necessary, first of all, that I should have turned my problem over on all sides to such an extent that I had all its angles and complexities in my head. Then there must come an hour of complete physical freshness and quiet well-being before the good ideas arrived. Often, they were there in the morning when I first awoke. But they liked especially to make their appearance while I was taking an easy walk over wooded hills in sunny weather."*[2]

Red Team Tools:

Red Teamers can assist leaders and teams during this stage to think more divergently and bring about more creative insights using Red Team tools such as:

Divergence - Convergence **TRIZ**

Structured Brainstorming

Stage 4: Idea Verification

Once the person has experienced the insight and has a new and creative idea, they share it with the team. The team members need to think it through, asking themselves questions such as, "Will this actually work?" and, "What would happen if…?" In most cases, the creative insight generated during the illumination arrives into the person's conscious mind incomplete. As psychologist J.S. Dacey noted about the **idea verification** stage (see Figure 6.4), this is where "the idea must be tested against the cold reality of fact."[3]

Teams tend to be more effective at **idea verification** than individuals for a few reasons:

Teams can help mitigate the natural tendency to "fall in love with your idea," and disregard all potential causes of failure due to wishful thinking, pride, and protective instinct. It is very natural for a person to develop a personal attachment to their new idea. It is critical, but indeed not natural, to dispassionately and objectively analyze and critique your own new idea. **NOTE:** Teams are only better than individuals during this stage if they operate in a climate conducive to candor and characterized by intra-team trust. To be successful, it is also very important for them to have processes in place to mitigate the tendency for groupthink.

Teams, especially when comprising members with diverse areas of expertise and perspectives, can better anticipate how the implementation of the new idea might impact other aspects of the organization.

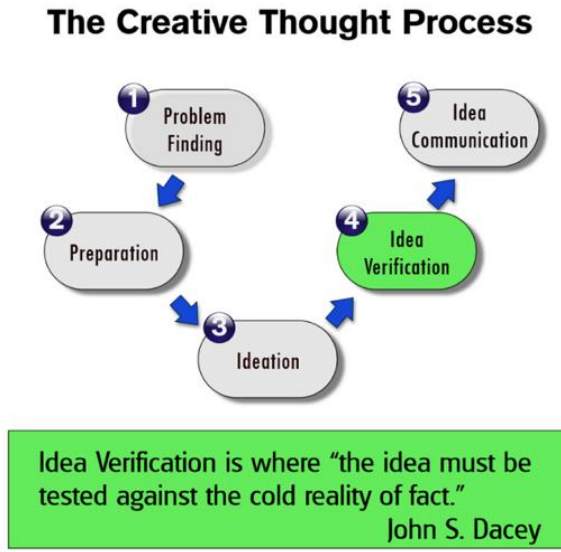


Figure 6.4 Creative Thought Process - Idea Verification

Red Team Tools:

Red Teaming tools, and especially a Red Teaming mindset can greatly enhance the effectiveness of individuals and teams during the idea verification stage. The Red Team Tools that tend to be most useful during this stage:

Premortem Analysis **What if? Analysis**

Stakeholder Mapping **Fishbowl**

Stage 5: Communication

During the **communication** stage (see Figure 6.5), the person or team that generated the new idea informs the relevant organizational stakeholders of the idea.

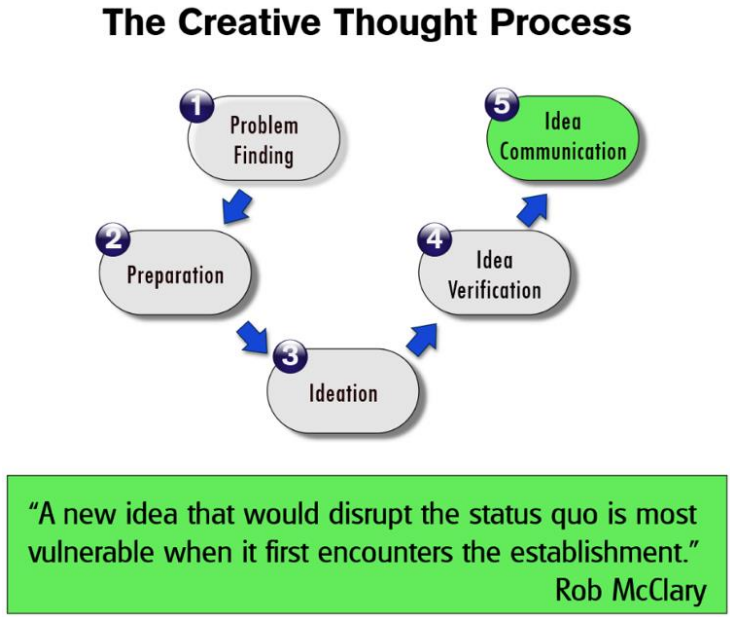


Figure 6.5 Creative Thought Process - Idea Communication

The goal at this stage is to communicate the new idea in a way that the relevant stakeholder:

1. Understands the idea, the problem that the idea is meant to solve, and the associated costs and risks of implementing the new idea, and

2. Supports the idea. This is, of course, a critical step because having a new idea, no matter how brilliant, is of no value to the organization until it gets implemented. And to get implemented, the idea must be shared with those in the organization who can direct actions such as committing resources, changing policy, or reprioritizing efforts and assets.

For ease of description, **communication** is listed here as a single stage. However, in practice, especially in collaborative settings, the communication of a new idea is often done in multiple steps, interwoven with the **idea verification** stage in an iterative sequence.

There are a few significant challenges to success during this stage as well, especially if the person with the creative idea is not among the organization's senior leaders. These challenges include:

1. The organizational climate in hierarchical units can often appear to its members as unreceptive to ideas that challenge the status quo. Such organizational climates can deter members who aren't senior leaders from sharing their creative ideas.

2. The creative person needs to be able to communicate the new idea in a manner that is understandable by the leaders. The more creative the idea is, the tougher it will tend to be for people unfamiliar with the idea to understand it.

Red Team Tools:

The Red Team methods and tools that can best assist

leaders and teams during this stage include:

- **Stakeholder Mapping**, specifically the analysis of interests step. Identifying the specific interests of key stakeholders enables the creative team to effectively articulate how the implementation of the new idea would serve the stakeholders' interests.
- A variation of **Argument Deconstruction**, specifically using the tool to help construct a compelling argument that ensures sound logic with clearly stated premises that sufficiently support the desired conclusion.
- A variation of **Determining the Suitability of an Analogy** combined with the **4 Ways of Seeing**. Using an analogy can be an effective way to use a familiar concept to communicate an unfamiliar concept (the new idea) in a compelling manner.[4] To be effective, the communicator must be sure that the receiver is indeed familiar with the source concept and perceives it in a favorable way. The **4 Ways of Seeing** is a tool to help envision another person's perspective and thereby gain empathic accuracy.

Summary

The ability to think creatively promises to be increasingly important for Army leaders and teams. With some practice and study, the Red Team Tools described in this book can significantly enhance leaders' abilities to both think creatively and foster organizational climates in their units that develop and facilitate their subordinates' creative thinking.

---

[1] M. A. Runco and C. Ivonne, "Problem Finding, Problem Solving, and Creativity," in Problem Finding, Problem Solving, and Creativity, edited

by Mark A. Runco (Norwood, NJ: Greenwood Publishing Company, 1994): 40.

[2] John Kounios and Mark Beeman. The Eureka Factor: Aha Moments, Creative Insights, and the Brain. (NY: Random House, 2015): 29.

[3] John S. Dacey. Fundamentals of creative thinking, (Lexington, MA: Lexington Books, 1989): 86.

[4] Cynthia Sifonis, Adrian Chernoff, and Kevin Kolpasky. "Analogy as a Tool for Communicating about Innovation." International Journal of Innovation and Technology Management. Vol 3, no. 1 (2006): 1-19.

Chapter 7

Red Teaming Tools, Techniques, & Practices

Volatile, uncertain, complex, and ambiguous (VUCA), the modern operational environment is all of these and more, demanding flexibility and adaptability of both thought and action to succeed. Every situation holds unique challenges, demanding more than just a standard response from a checklist. Red Teamers engage this environment as architects, drawing from a host of skills and tools to design and craft custom solutions supporting their team. Though they learn from experience, Red Teamers know every challenge is different, whether through context, culture, or countless other influences.

To address such an environment, Red Teamers rely on training and experience to build uniquely-capable teams. They then apply Red Teaming tools, techniques, and practices (RT-TTP) in flexible yet purposeful ways to craft a suitable framework on which to build their recommendations. Mastery of RT-TTP allows them to adjust for time and purpose and permits the reevaluation of progress and alternative approaches when needed. This dynamic approach allows them

to assess situations, diagnose problems, and design and test solutions in a fluid manner, adapting to the volatility and complexity of the event.

Tools

Tools can serve multiple purposes, depending on the method and circumstances of employment. Tools are typically not intended to stand alone, but rather to work in sequence with each other to support a decision-making process. As illustrated in Table 1, most tools support Applied Critical Thinking (ACT) and/or Groupthink Mitigation (GTM). The table provides an initial categorization of tools that enable the Red Teamer to think about "what tool could I employ" and "how could I use them." Once you select your tools, your team's success is dependent on the judicious selection, sequencing, and application of tools within the context of the situation and time available.

A Technique: The Ideal Group Process

Adopted from Russo and Schoemaker's *Winning Decisions*, the "Ideal Group Process" provides a framework for group divergent and convergent thinking overlaid with ACT and GTM tools (see Figure 7.1). The Red Teamer selects the recommended ACT or GTM tools (see Table 7.1), and methodically takes the group from divergent thought, through analysis, debate/discussion, and then convergent thought. Continuous ACT and GTM tool employment bring variations of existing thoughts, perceptions, and views into the discovery of new ideas and critical evaluation. Just as the Yin and Yang, the ACT and GTM tools are applied in a continually revolving feedback loop throughout the framework, in a never-ending state bounded only by the time available.

Practices

As you consider the use of tools and techniques, here are some practices to keep in mind when working with a group:

1. Some roles to assign to a Red Team:
    a. Contrarian or Devil's Advocate who will challenge the group's thinking, preferably someone who has had experience with employing Red Teaming.
    b. A recorder to take notes, collect the data, and capture the story/narrative.
    c. A visualizer to draw diagrams from discussions, sketch models/pictures and envision the outcomes.
    d. Subject Matter Experts, who have expertise in their field and access to analytics and research to support the group.
2. Build an outline/framework that will guide the group through its process. Consider utilizing a Design Storyboard to critically think through how you are going to deal with the problem, which tools you could use, and what the desired end state could look like.
3. Allow the group to define their own rules on how they will proceed when working together. Better-defined rules will provide transparency amongst the group and will enhance collaboration and honest feedback.
4. Keep an open mind and withhold judgment while diverging and allow the emergence of new ideas.

In closing, the Red Teaming TTPs within this handbook add to the steps on your life-long journey of learning. Doing and thinking in the same way over and over again in an ever evolving VUCA environment will set you and those you support up for failure. Just as you train your psycho-motor skills for the battlefield, take the time for serious study of thinking about how to draw divergent information from groups and then how to challenge their assumptions they rely on for their decisions. As a famous 16th-century Japanese swordsman Miyamoto Musashi once said, "There is more than one path to the top of the

mountain."

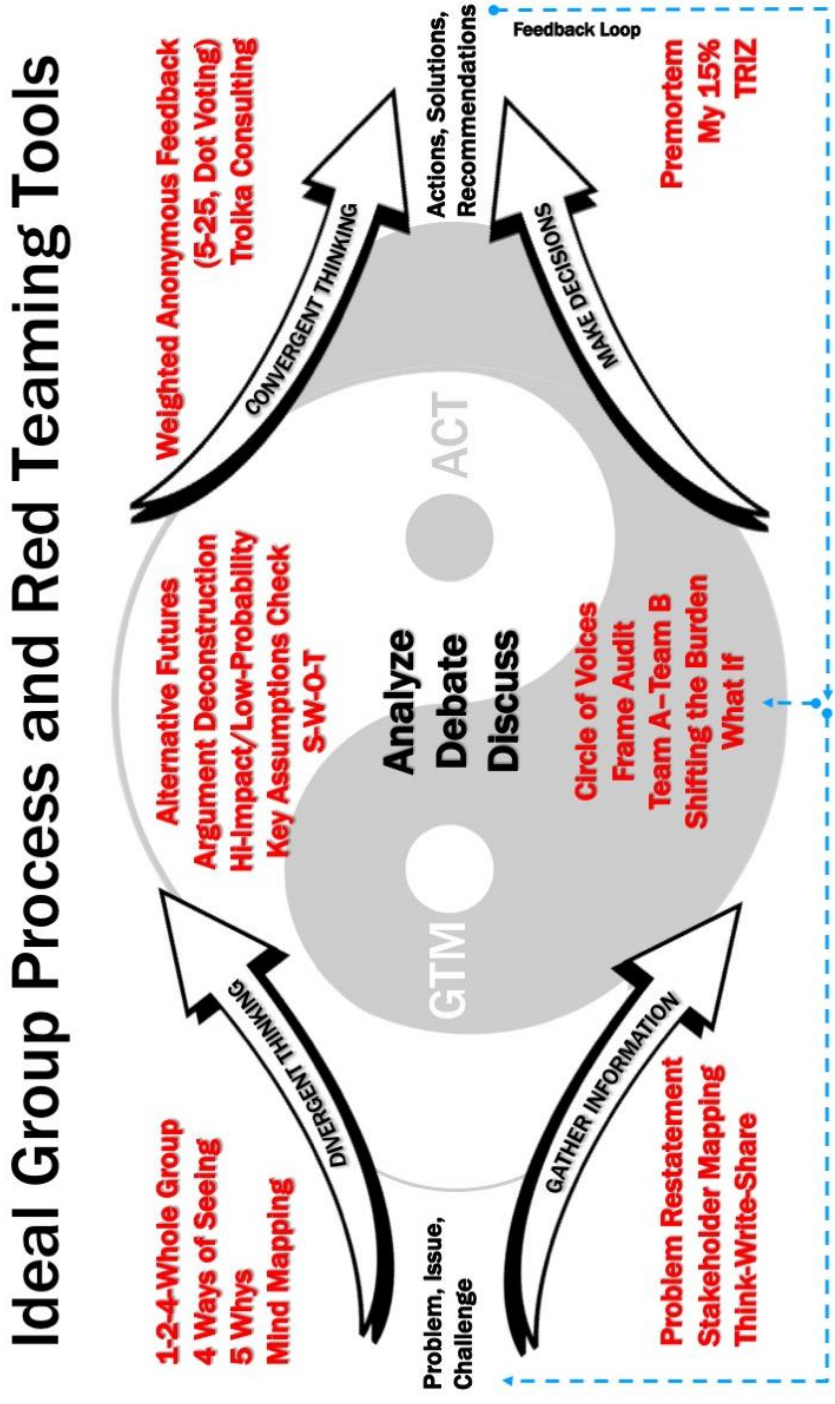


Figure 7.1 Ideal Group Process

TOOLS	ACT	GTM	PAGE
1-2-4-WHOLE GROUP		X	74
1 ON 1, 2 ON 2, EXCHANGE EMISSARIES		X	76
4 WAYS OF SEEING	X		78
5 WHYS	X		80
5 WILL GET YOU 25		X	82
6 EMPATHETIC QUESTIONS	X		84
6 WORDS	X		85
ALTERNATIVE FUTURES ANALYSIS	X		86
ANALOGY SUITABILITY	X		90
ANALYSIS OF COMPETING HYPOTHESES	X		94
APPRECIATIVE INTERVIEW		X	98
ARGUMENT DECONSTRUCTION	X		101
ASSUMPTION SENSITIVITY ANALYSIS	X		104
BATNA	X		106
BRAINSTORMING	X	X	108
CIRCLE OF VOICES		X	111
CIRCULAR RESPONSE		X	113
CRITICAL VARIABLES	X		115
CULTURAL PERCEPTION FRAMEWORK	X		121
DECEPTION DETECTION	X		139
DEVIL'S ADVOCACY	X	X	141
DIVERGENCE - CONVERGENCE	X	X	143
DOT VOTING		X	146
FISH BOWL	X	X	149

TOOLS	ACT	GTM	PAGE
FRAME AUDIT	X		151
GALLERY WALK		X	152
HIGH IMPACT / LOW PROBABILITY ANALYSIS	X		155
INDICATORS OR SIGNPOSTS OF CHANGE	X		158
KEY ASSUMPTIONS CHECK	X	X	161
MIND MAPPING	X	X	164
MY 15%	X	X	166
ONION MODEL	X	X	167
OUTSIDE-IN THINKING	X		169
PREMORTEM ANALYSIS	X	X	171
PROBLEM RESTATEMENT	X		173
SHIFTING THE BURDEN	X	X	176
STAKEHOLDER MAPPING	X		180
STATE-ELABORATE-EXEMPLIFY-ILLUSTRATE	X		184
STORYTELLING	X	X	186
STRING OF PEARLS	X		188
S-W-O-T ANALYSIS	X	X	194
TEAM A / TEAM B ANALYSIS	X	X	196
THINK-WRITE-SHARE	X	X	198
TRIZ	X	X	200
TROIKA CONSULTING (AD AGENCY)	X	X	203
WHAT IF ANALYSIS	X	X	205
WHO AM I?	X	X	207
YES, AND...	X	X	209

TOOL GUIDELINE: ACT AND GTM TOOLS ARE NOT PRESCRIPTIVE IN DESIGN. RATHER, THEY PROVIDE A STARTING POINT. THE USER MAY ALTER THE DESIGN OR FRAMEWORK OF THE TOOL TO MEET THEIR NEEDS.

Table 7.1 ACT - GTM Matrix

1-2-4-Whole Group

This GTM tool is adopted by the University of Foreign Military and Cultural Studies from *The Surprising Power of Liberating Structures*. [1] This is an iterative group activity designed to solicit and improve upon ideas and input from all participants, as well as to generate new ideas. Starting with each individual's own idea, group members participate in successive conversations to share, discuss, and improve upon individual ideas. The effort creates an environment where individuals can offer their original ideas without influence from others, gradually exploring and sharing ideas so that all are heard, and everyone contributes to the outcome. This tool also allows for ideas to merge into something new, or to spark ideas not realized in the initial round.

When to Use

Use when a group needs to critically review an issue of importance, seek new solutions or approaches to a problem, highlight the vast range of views that surround a certain issue or hear ideas/solutions from all individuals.

Value Added

It allows everyone to steadily grow the input, harvesting refined variants inside the issue by incrementally adding voices to enrich the discussion.

The Method

Facilitator: Prepare one well-defined question to position the issue.

One: Each participant reflects on the question within the allotted time (a few minutes to overnight, if possible), and then pre-commits by writing down their answer or idea before they have heard from or been influenced by any other participant.

Two: Each participant finds one partner and discusses the information to which they have pre-committed. From this starting point, they share feedback and add any new thoughts or insights prompted by the discussion. This can be a refinement, a merging of ideas, or a new idea prompted by the discussion. Ten minutes is usually sufficient.

Four: Each pair joins one other pair and repeats the process, covering those elements the participants found useful from the previous conversation. In addition to sharing observations, they identify biases, frames and missing information.

Whole Group: All participants come together in a single group to discuss insights discovered during the process. Discussion should include new discoveries, novel solutions, and an understanding of how their view of the issue has changed.

Variations

Consider utilizing SEEI (State, Elaborate, Exemplify, and Illustrate) tool during the reflection of the individual (One). This tool will assist you on critically thinking and clearly expressing your thoughts given to a question or concept that is provided. Now, share your ideas with other (Two).

1 on 1, 2 on 2, Exchange Emissaries

This GTM tool was designed by the University of Foreign Military and Culture Studies.[2] This tool provides a method for soliciting ideas from all group members and addressing a problem from multiple angles. The use of emissaries allows for greater divergence than the similar tool 1-2-4-Whole Group.

When to Use

Use to overcome groupthink and provide divergent thought that can highlight different approaches to a problem. Useful any time there are two or more teams working toward a common objective, whether working on identical tasks or on different tasks within a purpose. This method assists with breaking down silos.

Value Added

An issue is thoroughly vetted, everyone has an opportunity to cross-pollinate across the larger group, and ideas build randomly upon others. Emissaries create space for creative thought, bringing fresh views into what could have become an insular group; a good groupthink mitigation practice. Teams integrate work across disciplines and functional silos, refining problems clearly, and building trust through mutual support.

The Method

The role of the emissary is to describe the group's interpretation, options being considered, and challenges they are struggling to resolve. The emissary brings this collection of information to the new group to affirm, add, or refine. Then emissaries return to their original group, share the feedback, and help the original group incorporate useful ideas.

Steps

1. Participants individually consider an agreed-upon issue facing the group and pre-commit by writing down their ideas.

2. Participants pair off and exchange ideas (1 on 1).

3. Each pair joins another to continue the dialog (2 on 2 small group). The members choose a spokesperson, who will be the emissary. The role of the emissary is to describe the group's interpretation, options being considered, and challenges they are struggling to resolve to another group. Having identified the emissary, the small groups then discuss both pair-generated ideas as well as any newly generated ideas.

4. Each small group sends their emissary to another small group and welcomes an emissary into their own discussion. The emissary shares highlights from their original group's discussion and listens as the new group attempts to improve or add to the that discussion.

5. The emissary returns to the original group to share feedback from the other small group and, in turn, hear details of the emissary's exchange.

6. All small groups come together and share information in a plenary group out brief on the issue.

See Also

1-2-4-Whole Group, Ideal Group Process, and Groupthink Mitigation.

4 Ways of Seeing

This ACT tool was designed by the University of Foreign Military and Culture Studies.[3] This fundamental tool helps users examine two entities (people, organizations, nations, etc.) and gain a better understanding of perception, motivation, opportunity, opposition, and potential misunderstanding.

When to Use

Use when a situation or decision involves two or more stakeholders.

Value Added

Per the diagram below, the tool can be used to examine two groups and their views of one another. It can (and should) also be used in multiple iterations to examine the complex interconnections in scenarios with more than two participants.

The Method

1. Given two stakeholders, identify one as X and the other as Y.
2. Create a 2-by-2 matrix and insert X and Y identifiers (see Table 7.2) as illustrated below. Ensure each cell is clearly labelled with the entities' actual names, e.g., "How red sees blue".
3. Addressing one cell at a time, solicit group input for each cell using a tool like brainstorming or circle of voices. In addition to the labelled views, participants should consider topics like how each stakeholder views the operational environment (OE) and how culture, ideology, and situation influence their views.
4. Once all cells are filled, participants identify points of commonality, opposition, and potential misunderstanding between the stakeholders. This

information can be used to highlight opportunities and red lines.

How X Sees X	How X Sees Y
How Y Sees X	How Y Sees Y

Table 7.2 Four Ways of Seeing

Caution

Thorough research should be conducted to complete the analysis of these perceptions. It is more complex than the simple model implies. Some areas for further thought are:

- Seldom, if ever, will there be only two stakeholders in the system under study.
- Consider all the stakeholders' perceptions and inter-relationships within the system in order to provide context for the analysis.
- Consider how each stakeholder perceives and defines the OE, legitimate targets, and acceptable actions and weapons.
- All stakeholders hold values, beliefs, and perceptions that they view as right and rational.
- Consider stakeholder perceptions of the external audience(s).

See Also

Brainstorming, Circle of Voices, Devil's Advocacy

5 Whys

This ACT tool is a question-asking technique developed by Toyota executive *Taiichi Ohno* to explore the cause-and-effect relationships underlying a particular problem.[4] The technique is often used as part of the Lean Six Sigma process.

When to Use

To determine the root cause of a defect or problem symptom; however, the process can be used to go deeper to explore questions related to purpose rather than problems.

Value Added

Similar to Shifting the Burden, it is designed to push beyond the symptoms to get at the root of the problem.

The Method

Choose an issue or pose a question and ask participants to think about it for at least a minute. Pair up or form a small group and choose one person to state their thoughts on the issue. Each participant gets a turn in this role of explaining their thoughts and position on an issue of their choice.

The role of the others in the group is at first to be active listeners. Let the speaker complete their thoughts; do not interrupt for clarification or any other purpose. Once the speaker is done, ask "why?" at least five times, e.g., "Why is that important? Why should my staff section care about that? Why should resources be applied against that effort now?"

NOTE: If before asking 'Why' five times it looks like answers are circling back to the original statement or question, asking a 'How' question will change the perspective of analyzing the answer to continue researching for the root cause of the issue or problem. When seeking new opportunities, also consider asking

"why not?"

In addition to 5 whys, several “what” and “who” questions should arise as a result, like “what should we do now? What are the implications of what is suggested? Who else needs to know?”

It is important to begin with “why” questions. The answers to “why” questions get at causal links behind events and problem symptoms. “What” questions tend toward simple data collection and are subject to confirmation biases.

Example

Toyota provides the following example on their global website:

1. **“Why did the robot stop?”**

   The circuit has overloaded, causing a fuse to blow.

2. **“Why is the circuit overloaded?”**

   The bearings were insufficiently lubricated, so they locked up.

3. **“Why was there insufficient lubrication on the bearings?”**

   The oil pump on the robot is not circulating sufficient oil.

4. **“Why is the oil pump not circulating sufficient oil?”**

   The pump intake is clogged with metal shavings.

5. **“Why is the intake clogged with metal shavings?”**

   Because there is no filter in the pump.

5 Will Get You 25

This GTM tool is adopted by the University of Foreign Military and Cultural Studies from *The Surprising Power of Liberating Structures*.[5] This weighted anonymous feedback tool lets you solicit feedback a leader might not otherwise get from a staff, thereby providing the opportunity to identify opportunities and avoid unseen pitfalls.

When to Use

This tool allows for divergent thinking in generating ideas in an anonymous manner where hierarchy or introversion might inhibit these thoughts from being expressed to the entire group in open discussion. It also assists in convergence because it begins to whittle down the ideas that are rated as having sufficient merit for further evaluation.

Value Added

The idea sharing process can spark new ideas for the group, enhancing creativity and revealing new possibilities.

The Method

This tool generally starts with a question. Some examples are:

- What is the single greatest challenge for our organization?
- What is the biggest threat to this strategy?
- What is the primary obstacle to this plan?
- What is our core competency?

First: Ask the participants to think about the question and write their best answer or idea on a card as clearly, as legibly, and in as few words as possible – a bullet is better than an explanation.

Second: When everyone is finished, collect the cards, shuffle them, and deal them back to the group, giving each person one card. Once everyone has a card, have each person read the card silently and consider the response. Then on the back of the card, have them rate that response from 1 to 5, with 5 being brilliant and 1 being not good.

Third: Conduct the process five times, in five rounds, ensuring no one rates a card more than once. In each round, ensure the cards are passed with the scores facing down. It is important to ask people to mentally rank the card before looking at the numbers on the back so that they are not influenced by others' ratings. By round five, each card should have five ratings on the back of the card.

Fourth: Once the group is finished, have the participants tally the numbers on the back of the card they are holding. Call out descending scores starting with 25 ("25, 24, 23...", etc.) and write the responses that correspond to the highest three to five scores on a whiteboard or butcher paper. These top responses can be discussed and refined further as the group begins its convergence process.

See Also

Dot Voting

6 Empathetic Questions

This ACT tool was adopted from *Ken Booth, Strategy and Ethnocentrism*.[6] This tool is designed to make Red Teams more aware of their inherent ethnocentrism by consciously attempting to recreate the world through another's eyes; a set of questions for insight into another's worldview.

When to Use

To foster cultural empathy or to examine a partner, adversary, or non-aligned actor who is culturally different from us.

Value Added

As part of a country study, it might uncover characteristics or attitudes of an actor, society, or nation-state that might not manifest during the 4 Ways of Seeing. Although less intuitive, the Red Teamer roleplays the "other" through critical thinking and visualization techniques.

The Method

Visualize the world from the point of view of the other. Empathetically examine the world by answering from the other's perspective:

1. It is difficult to appreciate another's problems.
   What are the other's problems?
2. It is difficult to feel another's pain.
   What is the nature of the other's pain?
3. It is difficult to understand another's ambitions.
   What are the other's ambitions?
4. It is difficult to internalize another's experience.
   What is the other's experience?
5. It is difficult to understand how our actions appear to others.
   How do our own actions appear to others?
6. It is difficult to feel how threatened another may feel.
   Why does the other feel threatened?

6 Words

This tool, inspired by *Larry Smith, Six Word Memoir*[7], is an ACT tool designed to help Red Teamers focus on a core idea by writing a short phrase summarizing their thoughts into a set number of words that are clear, concise, and accurate. This idea is based on a complete short story written by Ernest Hemingway: "For sale, baby shoes – never worn." Six Words forces people to synthesize their ideas in a succinct and meaningful way, cutting away fluff and distilling the idea to its bare essence.

When to Use

Utilize the tool to encourage participants to critically think about ideas when writing down their ideas to share. This tool also mitigates others from sharing ideas out loud that are not well thought out.

Value Added

This tool can create pithy "bumper stickers" that communicate in a meaningful, memorable way.

The Method

When a priming question is asked, and participants are provided time to think, have them write down their ideas in 6 words or less. The facilitator will guide the students by collecting their ideas through storytelling, 5x8 cards, stickies or writing them down on a white board.

Alternative Futures Analysis

This ACT tool is derived from *Peter Schwartz, The Art of the Long View: Planning for the Future in an Uncertain World*.[8] Systematically, the tool explores multiple ways a situation or scenario can develop when there is high complexity and uncertainty.

When to Use

This approach is most useful when a situation is viewed as too complex or the outcomes as too uncertain to trust a single outcome assessment. First, the Red Team must recognize that there is high uncertainty surrounding the topic in question. Second, they, and often their customers, recognize that they need to consider a wide range of factors that might bear on the question. And third, they are prepared to explore a range of outcomes and are not wedded to any preconceived result. Depending on how elaborate the futures project, the effort can amount to considerable investment in time, analytic resources, and money.

A team can spend several hours or days organizing, brainstorming, and developing multiple futures; alternatively, a larger-scale effort can require preparing a multi-day workshop that brings together participants (including outside experts). Such an undertaking often demands the special skills of trained scenario-development facilitators and conferencing facilities.

This technique is a sharp contrast to contrarian techniques, which try to challenge the high confidence and relative certitude about an event or trend. Instead, multiple futures development is a divergent thinking technique that tries to use the complexity and uncertainty of a situation to describe multiple outcomes or futures that should be considered, rather than to predict one outcome.

Value Added

This approach is useful in highly ambiguous situations, when analysts confront not only a lot of "known unknowns" but also "unknown unknowns." What this means is that the Red Team recognizes that there are factors, forces, and dynamics among key actors that are difficult to identify without the use of some structured technique that can model how they would interact or behave. Given the time and resources involved, scenario analysis is best reserved for situations that could potentially pose grave threats or otherwise have significant consequences. Past experience has shown that involving policymakers in the alternative futures exercise is the most effective way to communicate the results of this exploration of alternative outcomes and sensitize them to key uncertainties. Most participants find the process of developing such scenarios as useful as any finished product that attempts to capture the results of the exercise. Policymakers and Red Teams can benefit from this technique in several ways:

1. It provides an effective means of weighing multiple unknown or unknowable factors and presenting a set of plausible outcomes.
2. It can help to bind a problem by identifying plausible combinations of uncertain factors.
3. It provides a broader analytic framework for calculating the costs, risks, and opportunities presented to policymakers by different outcomes.
4. It helps anticipate otherwise surprising developments by challenging assumptions and considering possible wild cards or discontinuous events.

5. It generates indicators to monitor for signs that a particular future is becoming more or less likely, so that policies can be reassessed.

The Method

The most common method used in both the public and private sectors involves the following steps:

1. Develop the "focal issue" by systematically interviewing experts and officials who are examining the general topic.

2. Convene a group of experts (both internal and external) to brainstorm about the forces and factors that could affect the focal issue.

3. Select by consensus the two most critical and uncertain forces and convert these into axes or continua with the most relevant endpoints assigned.

4. Establish the most relevant endpoints for each factor; (e.g., if economic growth were the most critical, uncertain force, the endpoints could be "fast" and "slow" or "transformative" and "stabilizing" depending on the type of issue addressed.)

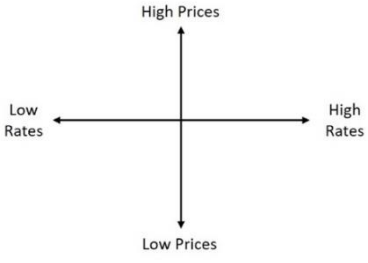
5. Form a futures matrix by crossing the two chosen axes. The four resulting quadrants provide the basis for characterizing alternative future worlds.

6. Generate colorful stories that describe these futures and how they could plausibly come about. Signposts or indicators can then be developed.

Participants can then consider how current decisions or strategies would fare in each of the four worlds and identify alternative policies that might work better either across all the futures or in specific ones. By anticipating alternative outcomes, policymakers have a better chance of either devising strategies

flexible enough to accommodate multiple outcomes or of being prepared and agile in the face of change.

Example



When buying a home, we might select house prices and financing rates as our two most critical and uncertain variables. The endpoints for each variable would be high and low, giving us the following axis.

Figure 7. 2 Alternative Futures Example

Within each quadrant, we then develop colorful prospective outcomes should that combination of factors come true.

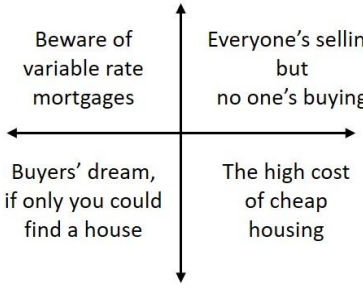


Figure 7. 3 Alternative Futures Example

From this, the group can develop perspectives concerning how each scenario might come about, along with signposts that would indicate which direction the problem is heading. This knowledge would assist with the development of plans to counter unwanted outcomes.

Analogy Suitability Analysis

This ACT tool was enhanced by the University of Foreign Military and Cultural Studies.[9] An analogy is an analysis used to improve our ability to comprehend one situation by comparing it to a previous situation about which we know something. We use analogies to simplify communication of complex ideas or concepts, and to establish a common reference point or patter to stimulate dialogue regarding ambiguous situations. This tool is a form of inductive reasoning, in which we proceed from one general premise to another. Like all inductive reasoning, however, there is no certainty that the analogical conclusion is warranted—at best the conclusion might be probable.

When to Use

To improve your comprehension of the situation and review the validity, relevance, and worthiness of comparison for the purpose of improving communication and selecting appropriate analogies.

Value Added

To determine an analogy's suitability is to compare the ways in which both situations are similar or dissimilar and to evaluate the relevance of those similarities and differences. For example, given the analogy "Going into Iraq will be our next Vietnam," the person making the statement presumes that one will be like the other. In some ways, perhaps it might, however, there may be significant differences.

The Method

1. Brainstorm the criterion for "similar and dissimilar" to assess; consider the most expansive criteria one could possibly infer. Sample criteria (at minimum) are the:
    a. Historical context

b. Economic factors
c. Environmental factors
d. Duration of the conflict
e. Regional power intervention
f. Morale, will, and ideology (motivators)
g. Public opinion (regional, indigenous, international, etc.)
h. Size and composition of the allies and of the opponents
i. Professional state of the opponent and the U.S. allied forces
j. Likelihood the population will rally around one side or the other
k. Nature of the enemy, the operational environment, and the regional parties which may help/hinder either side

2. Develop a comparison with a minimum of 4 columns. Column 1: Criteria. Column 2: Similar / Dissimilar assessment. Column 3: Relevance. Column 4: Notes/Remarks (see Table 7.3).
3. List the criteria in the first column.
4. Evaluate the two situations (analogies) on whether the criteria are similar or dissimilar. Other methods such as weighted anonymous feedback, divergence-convergence, etc. can be used to add rigor to the evaluation as time and situation permits.
5. Determine the relevance of the criteria to current situation. Recommended terms for characterization include “High”; “Moderate”; “Slight”; and “Inconsequential.”
6. Provide short notes and comments about key insights for the evaluation of the criteria in the final column to serve as a record for the evaluation.

7. Conduct the final assessment: pan for gold, what is the "so what?", and consider these core questions:
    a. Is the analogy valid? (i.e. enough similarities--strong inductive argument)
    b. Is the analogy relevant? (i.e. is context beneficial/applicable to current situation?)
    c. How is the analogy useful?
    d. How is the analogy dangerous or unbeneficial? (Note: be mindful that while USEFUL ideas/concepts emerge, the analogy itself may not be beneficial.)

Table 7.3 Analogy Suitability Matrix

Optional Additions

List the similarities / dissimilarities of each the analogies

Criteria	Similar / Dissimilar	Relevance	Remarks
Duration	Similar	Moderate	> 10 years; Domestic opinion affects policy
Nature of conflict	Similar	High	COIN; saw Iraq as High Intensity conflict
Cultural	Dissimilar	High	Buddhist /Confucian influence vs Arab & Islam

while considering a broad set of criteria, such as Critical Variables, and then consider the relevance each item. Infer your conclusions from your analysis.

Caution

The assessment of an analogy's suitability rests in large part on the number of criteria you can possibly cite and compare. Whomever uttered the analogy may have focused too narrowly [or too broadly, or just right] on criteria, in a way that framed their conclusion.

Analysis of Competing Hypotheses

This ACT tool was developed by *Richard Heurer* and introduced in his book *Psychology of Intelligence Analysis*.[10] When a Red Team is working on difficult issues that are generating many alternative explanations (hypotheses), utilizing the Analysis of competing Hypotheses (ACH) will evaluate all evidence that will disconfirm rather than confirm any hypotheses. The thoroughness of this tool will provide an audit trail to show what was considered and how they arrived at their conclusion.

When to Use

This tool engages and evaluates large amounts of data. Analysts have also found that examining evidence more systematically makes this technique ideal for considering deception and denial. ACH also develops a clear record that shows which theories were considered and how analysts made judgments on controversial issues.

Value Added

In essence, ACH identifies alternative explanations and helps point out the best solution, going through all the possibilities, instead of stopping at the first solution that seems satisfactory. An ACH matrix also allows others to review the analysis and identify areas of agreement and disagreement. Moreover, ACH guards against common flaws that lead to inaccurate speculations. Groups:

- Too often we rely on evidence that supports their preferred hypothesis, but which also is consistent with other explanations.
- Are susceptibility to undue influence, first impressions, incomplete data, existing analytics, or one fitting explanation.

- Seldom generate a full set of explanations [hypotheses] at the outset of a project.

Caution

For a level playing field, protect against:

- Innate tendencies to ignore or discount.
- Premature closure of a particular explanation or hypothesis.
- Dismissing information that does not fit comfortably, at the time, with the preferred explanation.
- Unequal treatment, or weight, of any argumentation or information while considering each hypothesis.

Additionally, if the data might need to be reassembled, the initial phases of the ACH process may require additional time. Although, developing a matrix of hypotheses and loading already collected information into the matrix can be accomplished in a day or less. And while ACH lends itself to one single analyst, it is most effective in a small team challenging one another's assessment.

The Method

Work to disprove hypotheses rather than proving to break the minds natural inclination to confirmation and anchoring cognitive biases. Evaluate all reasonable alternative hypotheses together but evaluate one hypothesis at a time in the line of evidence/information. This technique mitigates the mind's natural tendency to see patterns and make correlations. If the group wants to use this technique, it is important to adhere to the 'Think-Write-Share' methodology so various points of view are considered before synthesizing information into a group answer. Have a team of analysts:

1. Brainstorm to determine the key question or issue that needs to be addressed.

2. Brainstorm to develop possible hypotheses; applying varied perspectives.

3. Prepare a matrix columns evidence/information, source the previous came from, hypotheses, credibility of source and evidence/information the source produced, and relevance of evidence/information of key question. The rows will contain the appropriate information.

4. Place each hypothesis in a separate column after the source column, and before the credibility column.

5. Search for evidence that would be expected if a given hypothesis is true but is not being seen. Is denial and deception a possibility?

6. Place appropriate evidence/information in each row.

7. Place the type of source in next column that corresponds with the evidence/information provided.

8. Weigh the sensitivity of each hypothesis to evidence that would impact its validity; should those select few critical pieces prove to be misleading, wrong, or subject to deception.

9. Determine your criteria for the evidence/information to be consistent (C), Neither (N), and Inconsistent (I). Next, develop a value/weight you place on the C, N and I (For example, C and N = 0, I = -1). Finally, decide if each row of evidence/information is consistent/neither/inconsistent with each hypothesis.

10. Add the total number in each hypothesis column and place the total in the consistency score box for each hypothesis. The lower the consistency number indicates the hypothesis is less likely to be supported by the evidence/information provided.

11. For credibility and relevance columns, first determine your criteria for high (H), medium (M), and low (L). Next, develop a value/ weight you place on the H, M

and L (For example, H = 2 M = 1, L = 0). Finally, determine in each credibility and relevance column if the evidence is high/medium/low.

12. In each row, first multiply the credibility and relevance numbers, then multiply that number with each hypothesis value. When complete doing that for all rows, next in each hypothesis column add up the total credibility/relevance number and put the total in the credibility/relevance box for each hypothesis.
13. Explore what might account for any inconsistencies in the data.
14. Log all conclusions, including the weaker hypotheses that should still be monitored as new information becomes available, and monitor the indicators.
15. As new information continues to be collected, refine the matrix and reconsider all of the hypotheses; old ones will need to be re-examined and/or new ones will arise.

Example

Key Question: Who bombed the checkpoint near outpost X in Dec 20yy?								
Evidence or Information	Source	H1	H2	H3	H4	H5	Credibility	Relevance
Suspect 1, 2, 3, 5 observed conducting surveillance on checkpoint	HUMINT	C / 0 (0)	C / 0 (0)	C / 0 (0)	I / -1 (-2)	C / 0 (0)	M (1)	H (2)
Adversary organization suspect 3,4,5 quoted in local news they do not like movement restrited near outpost	OSINT	I / -1 (-2)	I / -1 (-2)	N / 0 (0)	N / 0 (0)	N / 0 (0)	M (1)	H (2)
Suspect 4, 5 cellphone intercept regarding detonator acquisition	SIGINT	I / -1 (-4)	I / -1 (-4)	I / -1 (-4)	C / 0 (0)	C / 0 (0)	H (2)	H (2)
	Consistency Score	-2	-2	-1	-1	0		
	Credibility / Relevance Score	-6	-6	-4	-2	0		
LEGEND:								
H1 = suspect 1	C = consistent: 0		H = high: 2					
H2 = suspect 2	I = inconsistent: -1		M = medium: 1					
H3 = suspect 3	N = neither: 0		L = Low: 0					
H4 = suspect 4								
H5 = suspect 5								

Table 7.4 Analysis of Competing Hypothesis Matrix

Appreciative Interview

This GTM tool builds on success stories and can spark positive conversation and ideation in any size group within a short period of time. Originally designed, inspired and adapted from professor *David Cooperrider*, *Case Western Reserve University*, many organizations have developed variations of this tool.

When to Use

Use this tool as an icebreaker for introductions, to build up energy in the room, and to focus participants on personal and organizational success. Use it to bring clarity to a story, get to a story's core, or just to pass ideas in a non-hostile/informal environment.

Value Added

This tool introduces members to one another, initiates trust, and socializes ideas in a way that allows everyone to contribute. The Red Team Leader should consider the desired end state before selecting which variant to use. Variant 1 offers more one-on-one interaction for icebreaker activities, while Variant 2 builds momentum within the larger group.

The Method

Variant 1 (derived from GroupJazz.com[11]):

1. Setup
    a. Identify a positive priming question like, "Think of an instance when you suggested an out-of-the-box idea and you got a positive response."
    b. Give the group five minutes to prepare their individual story.
2. Round 1:

   a. Pair up people so they can share their stories.
   b. Give the pairs ten minutes to share their stories.
   c. Encourage active listening.
      i. Each teller finishes their story without interruption.
      ii. The listener may ask questions after the story is finished.
3. Round 2:
   a. Pair up with new people and share stories.
   b. Again, give ten minutes to share stories; encourage active listening.
4. Round 3:
   a. For the last time, pair up with new people and share stories.
   b. Again, give ten minutes to share stories; encourage active listening.
5. Discuss the idea and the interaction as a group.

Variant 2 (derived from *The Surprising Power of Liberating Structures*[12])

1. Setup
   a. Identify a positive priming question like, "Think of a time you worked on a challenge and were proud of what you accomplished. What is the story, and what made the success possible?"
   b. Give the group five minutes to prepare their individual story.
2. Round 1:
   a. Pair up people so they can conduct interviews and share their stories.
   b. Give the pairs 15-20 minutes, with a focus on what made the action a success.

   c. Encourage active listening.
      i. Each teller finishes their story without interruption
      ii. The listener may ask questions after the story is finished.

3. Round 2:
   a. Join pairs into groups of four.
   b. Each person shares the story of their partner from round 1.
   c. Listeners should focus on patterns and conditions supporting success.
   d. Give the groups 15 minutes to share stories; encourage active listening.
   e. Collect insights in a discussion with the entire group.

Argument Deconstruction

This ACT tool was created by the University of Foreign Military and Cultural Studies from *Browne and Keeley, Asking the Right Questions*[13]. An argument is the sum of its issue, reasons, and conclusion. Critical Thinking emphasizes the need to thoroughly and systematically test the argument, which this tool facilitates.

When to Use

Use this as a framework when posed with an oral or written argument.

Value Added

Deconstructing the argument can surface value conflicts, hollow statistics, false assumptions, and/or erroneous conclusions. It can also help to reveal attempts at influence. Additionally, applying this tool to yourself can help you fill gaps and construct stronger arguments.

The Method

1. Identify the component parts of the argument: Issue + Reasons + Conclusion
    a. State the issue: a problem, premise, or thesis.
        i. Problem: the gap between existing and desired states.
        ii. Premise: something hitherto stated or assumed as the basis of further dispute; a condition, proposition, or supposition, antecedently supposed or proved that helps support a conclusion.
        iii. Thesis: a proposition to be maintained against objections or put forward for consideration; an

affirmation, distinct from a hypothesis; one to be discussed and proved.
   b. State the reasons: justification or logic provided to support the issue.
   c. State the conclusion: the judgment or end state of the argument.
2. Is the right issue defined?
3. What is the author's point of view?
4. What is the author's purpose for writing the article or assessment?
5. What has the author identified or brought up as key questions that need to be answered?
6. Are there any value conflicts, fallacies in the reasoning, or vague or ambiguous terms?
7. Are there any: prescriptive assumptions [a statement by the author of how things should be] and are they valid assumptions; or descriptive assumptions [a statement by the author of how things are] and are they valid assumptions?
8. Does the author use heuristics [a simplifying strategy or rule of thumb] to lay out information/make a case? (devil in the details)
9. How reliable is the evidence; has the author used or relied on:
   a. Intuition?
   b. Testimonials?
   c. Research studies?
   d. An appeal to authority?
   e. Personal experience or observation?
   f. An analogy?

And if so, is it appropriate?

10. What are the author's inferences based on the information presented? (Inference: Conclusion achieved by mental processing of information)
11. Is there a rival cause, or another way to explain the evidence and conclusion, or another plausible hypothesis, which might explain what happened? What is it?
12. Are any statistics deceptive, e.g., using numbers without percentages and vice versa?
13. Is any vital information omitted? (the dog that isn't barking)
14. Is any evidence open to another reasonable conclusion?
15. What are implications from the author's point of view?
16. What are the implications of accepting the argument?

The examination and consideration of these points facilitates the evaluation of the argument.

Assumption Sensitivity Analysis

This ACT tool utilizes practices from the University of Foreign Military and Cultural Studies and a sensitivity analysis tool used in financial modeling.[14] This tool uses anonymous weighted feedback to quantify the group's confidence level with assumptions and focus on the most questionable one.

When to Use

Any time planning, analysis, or synthesis include assumptions, this tool allows the group to anonymously identify the assumptions in which the group has the least confidence (and consequently, in which it often sees the most danger). With this knowledge, the group can then direct its focus to challenge or recraft the assumption.

Value Added

The tool helps the group quantify the expected likelihood that assumptions are correct, allowing it to assign expected confidence levels. Once the group has determined the desired level of confidence to move forward, it can logically handle the assumptions, determining which to accept and which to further research.

The Method

1. Gather input.
    a. Give everyone a 5x8 card; ensure anonymity.
    b. List and number the assumptions to be assessed.
    c. Ask participants to estimate their confidence in each assumption by writing a percentage of likelihood that each one will come to fruition. Example: "On your card, estimate your confidence in each assumption as a percentage. If you believe

there is a 70% chance that the first assumption will be correct, please write 70% next to number one. Please do this for all six assumptions."

2. Collect the cards and compute the aggregate confidence with each assumption.

    a. Example: For assumption 4, the eight participants responded: 80%, 80%, 85%, 90%, 90%, 90%, 95%, and 95%. The average is the sum divided by the number of participants, or 705/8 = 88%. "For assumption 4, we are 88% confident that it will come to fruition as stated."

    b. Example: Average the responses for each assumption, which in our notional example would be: 1 = 75%, 2 = 80%, 3 = 82%, 4 = 88%, 5 = 90%, and 6 = 93%.

3. Compute the likelihood that at least one assumption is invalid; the probability equals the product of all confidences.

    a. Example: The probability that at least one of the six assumptions is invalid = .75 x .80 x .82 x .88 x .90 x .93 = 36.24%.

    b. Example: "The input provided suggests we have the lowest confidence in assumption 1 at 75%, and the likelihood that all assumptions are correct is 36%."

4. The group may then challenge or recraft assumptions as desired to increase their likelihood of coming to fruition.

5. The result should stimulate a Premortem Analysis.

BATNA

This ACT tool was adopted by the University of Foreign Military and Cultural Studies from *Fisher and Ury, Getting to YES*.[15] The Best Alternative To a Negotiated Agreement (BATNA) is the standard by which any proposed agreement should be measured. Knowing your BATNA enables you to predetermine what is minimally acceptable to you in your agreement.

When to Use

Developing your BATNA is perhaps the most effective course of action you can take when dealing with a seemingly more potent negotiator. Use your BATNA to guard against: (a) rejecting terms that are in your best interest to accept and (b) accepting terms that are too unfavorable. Devise "a best solution" independent of the other side's assent.

Value Added

A good BATNA helps you negotiate on merit. BATNA is not only a solid metric, it is also flexible enough to permit exploring imaginative solutions; in doing so, you greatly strengthen your hand. Instead of ruling out a solution that does not meet your bottom line, you can compare a proposal to the interests within your BATNA. Moreover, as your BATNA evolves you can convert resources into negotiation power. The more easily you can walk into a negotiation, the greater your capacity to affect its outcome.

The Method

Attractive alternatives are not just lying around waiting on you; you must develop them with your data, time, money, wit, and network:

1. Ask, "What do I intend to do if I cannot reach an agreement?"

2. List conceivable actions you could take if no agreement is reached.

3. Improve on the promising ideas, solidifying practical alternatives.

4. Tentatively select the one alternative that looks the best.

5. In negotiations, keep your BATNA in mind, and refuse to accept any agreement less desirable than the BATNA.

6. Consider the other side's BATNA; their available alternatives. The more you know about their options, the better you're prepared; you can more realistically estimate the path of the negotiation.

Brainstorming

Brainstorming is a term mentioned in *Alex F. Osborn, How to Think Up*.[16] This ACT/GTM tool is used as a structured analytic technique for generating ideas or stimulating new thinking in an unconstrained group effort.

When to Use

Groups typically meet to generate hypotheses or discuss challenges at the beginning of a project or at critical points. Brainstorming is most useful when members want to build on an initial idea.

Value Added

A modest investment of time can leverage varied perspectives to help structure a problem. The process gives permission to suspend "good judgment", think "outside the box" beyond conventional mind-sets, and optimize creativity in the thinking process. It can also be combined with many other tools. In particular, it sparks new ideas, ensures a comprehensive look at an issue, raises unknowns, and prevents premature consensus around a single hypothesis. More generally, it can surface a wider range of factors that might bear on the topic than would otherwise be considered.

The Method

Paradoxically, to be most productive, brainstorming should be a structured process. An informal discussion might produce some interesting ideas, but a more systematic process will soften mind-sets and produce new insights. A four-phase structure tends to get the most out of the session: get ready, diverge to generate/collect new ideas/insights, converge to organize those ideas around key concepts, and then decide what is next.

Phase 1: Stage the Session

1. Plan the meeting: Schedule time (usually at least one hour) in a comfortable room and invite 10-12 people; one should be an outsider.
2. Frame the focal question: Posit the issue into one question.
3. Set the room: Display the focal question on a working board.

Phase 2: Employ Divergent Thinking

1. Request ideas: Ask the group to quietly write down their ideas about the focal question (as many as they can think of or use sticky notes – one per idea), which facilitates clustering ideas in the next phase.
2. Circle the room in order, allow each person to share one idea, write it on the whiteboard; silence any judgments.
3. Continue circling to exhaust everyone's ideas.
4. Allow for building on the ideas of others.

Phase 3: Employ Convergent Thinking

1. Organize ideas: Cluster ideas and shape categories together.
2. Vet ideas: Discuss the feasibility of each idea or cluster.
3. Examine the outcome: Recognize which ideas, concepts, or further work the group has generated.

Phase 4: Continue or Conclude the Session

1. Press on or stop: The group should elect to continue [or not] and integrate other RT-TTP, i.e., Dot-voting to narrow the field.

Optional Additions

1. Never censor, no matter how unconventional an idea. Instead, find out what prompted the thought; the idea may be the seed of an unstated connection between the topic and an assumption.

2. Allot enough time to brainstorm correctly; usually one hour to set the "rules", get the group comfortable, and exhaust the conventional wisdom in the room.

3. Involve an "outsider", such as someone familiar with the topic but outside the group's culture, background, or mindset.

4. For a variant, it can be very effective to conduct brainstorming in silence, with participants placing their ideas on a board using sticky notes. The notes can then be grouped in affinity clusters for further examination and development.

Circle of Voices

This GTM tool was adopted by the University of Foreign Military and Cultural Studies and designed by *Stephen Brookfield, The Skillful Teacher*.[17] This is a simple tool for facilitating a respectful group discussion.

When to Use

When you need to promote active listening and ensure everyone has an equal opportunity to contribute and participate in group discussions. It is a simple facilitation technique for stabilizing group participation.

Value Added

Participants discover that listening, appreciating, and synthesizing are just as crucial to good discussion as originating brilliant contributions.

The Method

1. Seat 5-6 in a small group circle and explain, "each person gets 1 minute of uninterrupted airtime to say what they wish about the topic before we discuss it," and share these operating principles:
    a. Pre-commit to no stress about who goes when or for how long.
    b. Do not speak a second time, until everyone has spoken once.
    c. Listen actively; seek to understand what is communicated.
2. Share the assigned topic and impose 60 seconds of silence to think.
3. The initial Circle of Voices – Everyone gets a 1-minute turn to speak.

   a. Person #1 gets their turn at "uninterrupted airtime" to say what they wish about the topic, while others listen actively.
   b. Going around the circle in order, person #2 gets their turn, and so on, to the last person, while others listen actively.
4. Once the initial Circle of Voices is complete, the facilitator can open the floor for anyone who wants to speak. The only restriction:
   a. Refrain from grandstanding. You may discuss another's idea (already expressed), but you may not expand on your own idea.
   b. When discussing another's idea, participants should utilize the Yes, and… technique.

Circular Response

This GTM tool was developed by an adult educator *Eduard Lindeman* and discussed by *Stephen Brookfield* in his book, *The Skillful Teacher*.[18] Often individuals will talk past others in a group. To promote continuity or democratize participation so that others show respectful listening, the Circular Response follows the same protocols as Circle of Voices yet adds an intriguing twist. New speakers must integrate the previous speaker's message into their own. Hence, speakers are never free to say just anything, and each must expand upon or refute the previous.

When to Use

When you have to facilitate a vocal group of perceived experts, this is a great tool to: (a) guard against grandstanding; (b) ensure everyone gets at least one say on the matter; and/or (c) practice active listening.

Value Added

No one speaker gains any advantage over another; it levels the playing field. No one can rehearse a perfect contribution because they have no idea what the preceding person is going to say until they have said it.

The Method

1. Seat 5-6 in a small group circle and explain, "Each person gets one minute of uninterrupted airtime to add what they wish about the topic before the group openly discusses it." Share these operating principles:
    a. Do not discuss as a group until everyone has spoken once.
    b. The person on my left is the next speaker for one minute.

   c. Listen actively and seek to extend what is communicated.
2. Share the assigned topic and impose one minute of silence to think.
3. The initial round – Everyone gets one minute to speak.
   a. The first person gets a turn at “uninterrupted airtime” to say what they wish about the topic while others listen actively. Once the speaker has finished, they yield the floor to their left.
   b. The person to the original speaker's left gets one minute to speak and must integrate some aspect of the preceding message into their own. This can be agreement, dissent, or expansion on the original statement. Once finished, this speaker yields left also.
   c. Continue to circle clockwise, requiring responses that conform with the rules above, as others listen actively.
4. Once each person has had one minute to speak, the facilitator may open the floor to all for unconstrained conversation.

Critical Variables

This ACT tool was developed by the University of Foreign Military and Cultural Studies.[19] Critical Variables (CVs) are the dynamic factors representing the circumstances, conditions, and influences that affect the operational environment (OE). Framing and studying these interrelated factors allows us to use them to our own advantage, keep adversaries from using them against us, or incorporate them into our planning.

When to Use

As part of any effort to frame, study, or analyze the OE and convey baseline data. Red Teamers organize the data utilizing systems thinking practices to visualize the complexity and to organize the relevant knowledge of the OE.

Value Added

The OE can be framed many ways. PMESII+PT model is a comprehensive approach but struggles to illustrate the complexity of multiple layered and interrelated variables. Applying the CVs to PMESII+PT (see Table 7.5) enhances the effectiveness of the OE.

What Critical Variables inform PMESII+PT		
Politics • Culture • Religion • Nature & Stability of State • Regional & Global Relationships • Sociological Demographics • External Organizations	Military • Culture • Religion • Military Capabilities • Nature & Stability of State • Regional & Global Relationships • Technology • National Will	Economics • Culture • Religion • External Organizations • Technology • Nature & Stability of State • National Will
Social • Culture • Religion • Sociological Demographics • Technology • External Organizations • Nature & Stability of State • National Will	Information • Culture • Religion • External Organizations • Information • National Will	Infrastructure • Sociological Demographics • Technology • Regional & global Relationships • Culture • Religion • Nature & Stability of State • Technology
Physical Environment • Culture • Religion • Regional & global Relationships • Physical Environment		Time • Time • Culture • Religion • National Will

Table 7.5 Critical Variables (CVs) related to PMESII-PT

The Method

Review the descriptions of the Critical Variables and analyze their impact on the OE. Consider systems thinking techniques to analyze the impact of each Critical Variable on each other.

1. ***Military capability*** is the most critical variable for military operations. It was once easy to define military capabilities: equipment, manpower, training levels, resource constraints, and leadership issues. However, this variable is rapidly becoming more complex. Niche technologies are increasingly the norm. Asymmetric concepts, rapid technological advancement, and hybridization reconstitute changing needs and requirements. Special Forces and paramilitary or enhanced police units are increasingly significant as their capabilities/roles expand. A commander must visualize all military capability/flexibility of the threat, conventional and unconventional.

2. ***Economics*** establish boundaries between "haves and have-nots". The economy may point out relationships that invite political or military assistance. Economic power measures the ability to rapidly procure, mobilize a nation, and conduct sustained operations. Elements of economic power may influence the battlefield. The ability to affect another actor through economic means rather than using military capabilities might even be the key to dominance in the region. Economic superiority typically results in conflict caused by some sort of economic gap among nation-states, e.g., deprivation or control.

3. ***Technology*** is the equipment and industrial sophistication an entity can develop, produce, utilize, or import. Globalization is slowly eroding the U.S. advantage.

The presence of advanced technology can indicate where opponents perceive the greatest threat or expect the greatest advantage. We must determine if the threat has the technological capability to overmatch or achieve equality.

4. ***Information*** is an entity's mechanisms for preserving or transmitting information: infrastructure, systems, access, usage, distribution, manipulation, and reliance. Mass media can influence U.S. internal opinion, sensitivities, policy, and decision making. Networks provide a communications web. Redundant systems allow a constant flow of information: couriers, graffiti, rumor, gossip, and print. Actors sway populations by managing propaganda and perception. For example, which combat operations are visible to the world, and how?

5. ***Regional and Global Relationships*** are an element of nation-states or non-state actors. These relationships include political, economic, military, or cultural mergers and partnerships. Allegiance to such a relationship can influence an actor's actions, in terms of support, motivation, and treaty construct. Actors create alliances to aid their collective capability and broaden their scale of operations. Regional and global relationships shape the scale, intensity, and persistence in military operations. In our age of globalization, regional activities will undoubtedly draw global interest. Effects created in one part of the world at the operational or tactical level could have global, cascading outcomes at the strategic level.

6. ***Nature and Stability of State*** (Critical Actors) denotes to the internal cohesiveness of actors; an actor's strength or weakness. Strength may lie in the political leadership, the military, the police, or some other element of the

population. It is important to determine the real strength and evaluate the population, political processes and authority, economic infrastructures, military forces, goals, and agendas. Understanding this variable allows U.S. forces to better visualize the nature of the military campaign and the true aims of an opposition's campaign. Any entity that must commit significant resources to maintain internal control may represent less of a conventional threat and more of a stability and support threat.

7. ***Will of the Nation*** and its Critical Actors is the unification of values, morals, and effort between the population and its government, leadership, or military. In unity, all parties are willing to sacrifice in pursuit of the goal. The interaction between political judgments and military actions define the achievable objectives in a conflict; also underpinning its duration and conditions of termination. People's willingness to support soldiers, insurgents, or terrorists is a critical characteristic of the battlefield. It influences the type and intensity of resistance to U.S. military operations. Many countries view the U.S. national will as a U.S. strategic center of gravity. The group's ability to set the conditions for achieving a favorable resolution rests on how well it preserves its own will while attacking its opponent's. For example, a perceived attack on the group's cultural identity will usually bolster its will to fight and increases both the intensity and the duration of the conflict.

8. ***External Organizations*** include non-government organizations (NGOs), international humanitarian organizations, transnational organizations, civilian organizations, multinational corporations, etc. Organizations have stated and/or hidden interests that

assist or hinder U.S. operations. Actors may have private motivations that differ from their organization's public statements. Actors also pursue interests in concert/competition with other actors.

9. ***Sociological Demographics*** discerns the characteristics of a human population or some portion of it. Demographics measure population volume, growth, density, distribution, births, marriages, diseases, and deaths. Demographics significantly contribute to the likelihood of conflict. Perceived inequities among sectors can breed envy and resentment. Overpopulation, illiteracy, unemployment, or a "youth bulge" can aggravate economic, ethnic, or other rivalries.

10. ***Culture*** is a system of shared beliefs, values, customs, behaviors, and artifacts that a membership uses to navigate their world and others. We examine multiple elements to understand a culture: core values, history, myths, traditions, etc. A culture may change over time or transmit shared values and beliefs from generation to generation through social interaction. Finally, a culture in and of itself does not cause a conflict; friction in an interaction between two different cultures creates the potential for conflict.

11. ***Religion*** is a variable that affects all other variables. Religion itself is a worldview in which people personify cosmic forces and devise ways to handle them. This approach often resembles the ways they deal with powerful human beings. It provides man with a way to deal with uncertainty that he otherwise cannot control. It is interwoven into culture as a cornerstone that affects every aspect of culture. It also provides a more global connection to others beyond their borders. An understanding of the

endemic religion should shape the way we conduct operations in that state (i.e., belief system of our opponent, organization of society, interpersonal relationships between our forces and the population, key sites, etc.).

12. ***Time*** is a tool for manipulating tactical, operational, and strategic advantages. It is one of the most significant planning factors driving decisions in every aspect of military planning. For example, force package development, force flow rate, quality of intelligence preparation, need for forward-deployed forces and logistics, etc. Planners must consider time in concert with the context of culture. Cultures view time differently; it might be radically different from ours or cause disjointedness in operational tempo.

13. ***Physical Environment*** is the circumstance surrounding and influencing air, land, sea, and space operations: terrain, weather, topography, hydrology, etc. History demonstrates that opposing forces utilize the physical environment to increase their prospect of success. Less complex and open environments tend to favor the U.S., with its standoff technology, precision guided munitions (PGM), and sophisticated capabilities (surveillance/reconnaissance). Hence, adversaries seek to confront U.S. forces in unfavorable weather, complex terrain, and isolated sea lanes.

Cultural Perception Framework

This framework is an ACT tool and was designed by the University of Foreign Military and Cultural Studies.[20] This tool is a scalable procedure for reviewing a selected culture. It provides the kinds of questions a Subject Matter Expert (SME) would ask to gain alternative perspectives about that culture.

When to Use

To discover another culture's underlying tendencies, habits, values, and beliefs and avoid mirror-imaging.

Value Added

It steps you thorough examining aspects of a culture without requiring you to be a SME on that culture.

The Method

Step 1: Establish a baseline of understanding, apply **4-Ways of Seeing**

- How does X view itself?
- How does X view Y?
- How does Y view itself?
- How does Y view X?
- What views conflict or are inconsistent?

Step 2: How does the ***physical environment*** impact the culture?

a. **Land**
   - Has the geography facilitated security, or invited invasion? How has social safety evolved in respect to its geography?
   - Who owns the land? Is it restricted to anyone? What are the local conventions of ownership/use, i.e., private, communal, and state? How does land

relate to power in the region?
- Is there sufficient land for agricultural use? Does it completely feed the population? Does it provide for agricultural export?
- What land is/not proper for certain groups to use and why?
- Who has legitimate ability to decide outsiders' access to land?
- Is there symbolic meaning for certain sub-districts, and do area groups view this symbolism similarly/differently? Why?
- What is the relationship between the political boundaries and how do people living in the area view those boundaries, in terms of politics, economics, genealogy, and security?
- What are the geographic area's principles of division, and is there a relationship between these dividing lines and access to both tangible and symbolic resources?
- Are there visually striking land formations of local significance?

b. **Climate and Seasons**
- How does climate influence local attitudes, business, work, and combat?
- What, in local terms, passes for good/bad weather, etc.?

c. **Water**
- Do any rituals relate to water or its use?
- Does water have any symbolic significance?
- What cultural rules are associated with water?
- Who customarily exercises functions with respect to water?

- Who has customarily controlled access to water, and how have they used that for influence?
- What roles is expected of U.S. military personnel with respect to water and its use or provision?

d. **Food**

- What are the local staples, and labor required to grow, prepare, and serve them?
- What foods are served by whom, to indicate the status of server or guest?
- How do U.S. Military operations or logistics impact the ability of local people to obtain essential foodstuffs?
- What foods have which kinds of ritual significance?
- What is the time- or calendar-related roles of various foods?
- Which foods are strategic commodities, since controlling access to them influences one's coercive or political power?
- What, in local terms, passes for sufficient/scarce food and appropriate for external forces to provide?
- What foods raise concerns about health or sanitation? What locally-accepted foods are considered strange, dangerous, or not even food, by the U.S. Military?

e. **Natural Resources**

- What natural resources can be found inside the borders?
- Are the resources accessible and/or nearing depletion? Who controls access to these natural resources?

- Which resources are required by the culture, but unavailable? Where are those resources procured? Who is in the controlling seat for procuring them, and who provides them? What sources of power emanate from this relationship?

f. **Fuel and Energy**

- What are the locally found/produced sources of fuel/energy?
- What is the relationship between local elites and fuel/power; access to and provision of?
- How do authorities provide, or control, access to power?
- How does the population deal with shortages of power and fuel, and how do U.S. Military operations impact them?
- What roles is expected of U.S. military personnel with respect to power/fuel provision and protection?

Step 3: How do people make use of the physical environment; how is the ***economy*** structured?

a. **The Informal Economy**

- What economic opportunities exist for the population?
- What categories of people work in the informal economy?
- On what commodities/services does the informal economy focus?
- Compared to the formal economy, how big is the informal economy? If it is larger—why?
- What percent of the formal/informal economy is under foreign control?
- What goods/services are legal, but culturally

frowned upon? Who deals in these goods/services?

- How does the formal economy rely upon the informal economy? Does this cause abuse to the area's population?
- What is the relationship between the informal economy, on the one hand, and unregulated movement of people, crime, and violence, on the other?
- What is considered an "illegal" good or service in the area, and on what basis? Is bribery and corruption [in Western terms] endemic? If so, what do locals consider corrupt?
- What are formal/informal economic actors' expectations of the state or over-arching political-military authority, with respect to involvement in or disregard for economic activity?
- How will U.S. Military expenditure in the local informal economy, or employment of local informal economic actors, influence the socio-economic balance of power in the area?

b. **The Formal Economy**

- What comprises the formal economy?
- What categories of people work in the formal economy?
- On what commodities/services does the formal economy focus?
- How will U.S. Military operations impact the formal economy, and the people in it?

c. **Economy as a Network of Exchange**

- Would a specific operational plan improve or block access to critical goods and services?

- What is the degree of (in) equity in the distribution of goods and services among the population?
- How do people gain access to critical services such as medical care, transportation, or education?
- How are important physical resources (food, clothing, shelter, cars, etc.) obtained by local people?
- Along with, or instead of money, what do local people rely on to obtain and exchange goods in the region?
- Who seems to control the distribution of goods/services, and how? Would a planned operation change the distribution pattern?
- If money is not the primary economic system, can the U.S. Military effectively use the local method of economic exchange?

d. **Economy as a Way of Structuring Social Relationships**

- Does the economy rely on general, balanced, or negative reciprocity?
- Do the elites own wealth, or do they possess power that generates wealth?
- What are the important features of the environment that determine the economy of the area?
- How do local economic structures reflect the relationship of the group to the larger political and state system?
- Who has/controls most of the wealth? What percent of the population lives in poverty, as locally defined?

- What are the economic rhythms of the community (migration seasons, planting and harvesting, market day, work hours, etc.)?
- What are the main economic systems in place in the region (pastoralism, agriculture, and/or industrial production)? Are all three present simultaneously?
- How is wealth distributed? Does it seem to be concentrated in the hands of certain individuals/groups? On what basis? What power is conferred from such a concentration?

Step 4: How is the ***social organization*** structured? How do the people organize, given the gifts of their physical environment, and their economic choices? (Age, Gender, Kinship, Class, Ethnicity)

a. **Age**
   - At what age is someone considered a child or adult?
   - What special status or roles are accorded to the elderly?
   - What are the population's demographics? What do they suggest?
   - What are locally accepted or expected economic roles for what U.S. society considers children?
   - What specific ceremonies mark the transition to adulthood? What new social privileges do these rituals grant?
   - Is there an age stratifying system for age or stage in the life cycle? If so, what rights, roles, and duties do people have at each stage?

- How should the U.S. Military prepare to respond to children that act as soldiers or participate in violent activities against U.S. forces?

b. **Gender**
   - What roles/tasks do women undertake "behind the scenes', if they are not visibly observable?
   - Do women engage in armed combat; what roles do they play in local militaries and insurgencies?
   - What are common child rearing practices, and how do they differ; gender, class? Who undertakes which tasks and where?
   - What roles are assigned to men and/or women? What activities, spaces, and work are assigned predominantly to men and women?
   - How must operational plans change to account for different work, roles, and spaces assigned to men and women?
   - How can operational plans and assignment of manpower include gender to maximize effectiveness of the unit?

c. **Ethnicity**
   - To what degree does ethnicity play a role in society?
   - What is the relationship between ethnic groups and positions of power or control of professions?
   - With respect to ethnic group struggles, what are local assumptions about U.S. and western partisanship and biases?
   - In the area, what kinds of processes have historically activated which ethnic identities and feelings of group membership?

- How do groups that are barred from positions of power challenge the system; Petri dish for insurgents, civil war, theft, and bribery?
- What are possible reactions from groups that are ignored; how will any perceived alliance with US Military affect a particular ethnic group or those in power?

d. **Class**

- Does class play a role in society? To what degree?
- Is status acquired through birth or achieved through action?
- What privileges (economic, political, social, and religious) are given to members of the upper class?
- What are key institutions in the social structure, and how did the leaders of those institutions acquire their roles?
- How is class differentiated in the area, based on: region of origin, inheritance, wealth, education, or other factors?
- How does wealth in the upper elite's hands relate to resource or power; through corruption, graft, or legitimate means?
- How is access to subsistence resources (food, shelter, water, etc.) determined; by class, inheritance, wealth, or other factors?
- What do local people consider to be their potential for in-system upward mobility, and what is the probability of upward mobility?
- To support the lower class, will funds/resources have to first pass through the hands of the upper class, and will they consequently disappear?

- How will U.S. Military measures that influence social mobility be viewed by differing groups; those groups, competing groups, and/or others?

e. **Kinship and Tribal Membership**

- Does society rely upon extended family units or nuclear families? Why?
- Does some form of tribe or clan related social structure exist; to what degree does it play a role in society?
- What reasons underlie social unity; what holds the society together; what provides "meaning" to this society?
- What degree of egalitarianism is prevalent; to what degree does the society believe in collective unity, vice individualism?
- How will our operations in the region support certain kin groups and enhance their power, or conversely undermine them?
- How are land, water, or access to certain goods and resources concentrated in the hands of specific kin groups or tribes?
- Does society rely upon "fictive" kinship; what is the essence of this fiction; which segments of society does it uphold and/or suppress?
- Does the society practice monogamy or polygamy; who decides; what is the nature of power internal/external to the married couple; what is the nature of marriage?
- Is the society matriarchal or patriarchal; from which side of the family does descent extend; do family members identify with the father's or the mother's relatives, or both?

- How does a U.S. Military's choice of local points of contact influence or disturb local kin relationships; thereby influencing the degree of success of U.S. Military initiatives?
- What are possible outcomes of an operation that will challenge the power/control of resources by certain kin groups in the region: war, insurgency, increased stability, more/less access to goods/services?

Step 5: What defines the ***political structure***? Who makes the decisions concerning power distribution and resource usage? (Conflicts over Power and Leadership)

a. **<u>Conflicts over Power</u>**
   - Are groups cognizant of any exclusions?
   - Which groups are excluded, and along which axes?
   - Which groups hold power, and in what concentration?
   - Do the leaders think it is possible to challenge the system?
   - How do state bureaucracies relate to other social structures?
   - What characterizes a patron and what is their functional role?
   - Does this society rely on the harshness of power or the rule of law?
   - Is religion used for political ends or is politics used for religious ends?
   - How flexible and interactive are local religious, ethnic, or tribal groups?
   - To what degree do religious, ethnic, or tribal identities polarize the area?
   - What tensions are inherent; what motivates the

society: political or economic in nature, desires for social change, or other?

- What cultural characteristics determine one's position and power in the community: age, class, gender, tribal identity, ethnicity, religion?
- To what degree is society comfortable with uncertainty: display low stress/anxiety, what is different is also interesting; or display high stress/anxiety, what is different is also dangerous?
- How does society handle the inequity of power: are members inclined to meekly accept it; do they revile others who exert power upon them; do they depend on what the boss says; do they wait until told what to do; do they use initiative, i.e., interdependence?
- What is the nature of bureaucracy: Does society easily navigate bureaucracy? Is red tape exercising power, exacting tribute, the way of efficient business? Do we need a person who can quickly deal with inefficient bureaucracy [wasta]?
- If U.S. Military allies with a group, how will this affect relationships with other groups? How do marginalized or losing groups access valued goods, resources, and opportunities: black market, theft, raids, and/or insurgency?

b. **Leadership**

- To whom do people turn to get something done?
- Who makes decisions and how is decision-making organized?
- Whom do leaders have to consult; to whom must they answer?
- What is the relationship between the formal and informal leader?

- Who are official formal leaders and what symbols show their status?
- What governs policy [debates/decisions]: principles & procedures?
- What are the motives of the leadership; do they live for politics or make a living off of politics?
- What types of leaders has the society supported: Legally elected, Violent, Charismatic, or other?
- What narratives are leadership using; what social and political ideologies are prevalent?
- Who are the central players in the leadership; what are their histories, ideologies and beliefs, and network affiliations?
- How is leadership obtained and passed on; election, inheritance, force, demonstration of skill, or a membership?
- Which institutions wield power, particular: religious entities, labor unions, tribes, clans, social structures, criminal organizations, courts, political parties, or other?

Step 6: What are the ***belief systems***? (i.e. Rituals, Icons, Religion, Mores, Symbols/Communication, History, Memory, Folklore)

a. **Rituals**
   - What are the rites of passage and/or rites of enhancement?
   - What behaviors and/or actions are important in the ceremony, and what does this reveal about cultural ideals and values?
   - Who participates, what is the nature of their involvement, and what does their presence say about their status in the group?

- What activities, unrelated to the ritual or ceremony itself but due to the social status of the participants, occur at ceremonial gathering?
- What is the public display of the ritual supposed to say to outsiders? How might this display be a politically charged statement about the group's status and rights within its larger society?

b. **Icons**
- Who are the local heroes and what qualities do they embody?
- Who are the local villains and what qualities do they embody?
- Are Americans or U.S. Military compared to any heroes or villains?
- What do these comparisons mean; illustrate about local attitudes?

c. **Religious Membership**
- What does geography mean to religious groups in the area?
- How do people in the region show their religious membership?
- What roles/status do religious groups hold in the larger society?
- How would a planned U.S. Military operation in the region impact the religious groups' power, status, and access to critical resources?
- How would a planned U.S. Military operation in the region influence the indigenous peoples' views of U.S. Military or U.S. biases towards different religious groups within the social structure?

d. **Mores (Norms & Taboos)**
- What taboos exist in the region: food, behavioral, and other?

- How does society sanction members; allows criticism or alienation?
- Being foreign to the area, what norms should U.S. Military observe?
- How are emotional outbursts perceived; gender specific, restrained, accepted, or other?
- What underlying allegiances or codes of honor could influence the success of an operation?
- In contrast to local norms, mores, and taboos what do locals believe or assume about Americans?
- Locally, what behavior is considered a serious violation of social mores and could carry serious punishments, including death?
- Are societal values predicated on: dualism (absolutes, evil v. good) or relativism (right v. wrong depends upon context)?
- Why might a killing be allowed and why: on behalf of the state, to exact revenge, restore honor, etc.; does society value human life?
- In terms of local norms, mores, and taboos, with what might local people think the U.S. Military will disregard (likely propaganda)?

e. **Symbols and Communication**

- What does local body language [hand gestures] mean?
- What is the meaning/nature of routine greetings and farewells?
- What words/phrases are essential to basic local communication?
- Which societal proverbs get lost in translation; what do they mean?

- What non-verbal behavior might be misinterpreted by local people, or in meetings and negotiations?
- What symbols indicate group, ethnic, religious, or social status (clothing, headdress, insignia, and scarification)?
- What symbols are help identify, navigate, or understand what is happening in the area (fences, signs, graffiti, and spiritual markers)?
- How is information shared: word of mouth, gossip and rumor, in writing, television, texting and cell phone, internet, or other?

f. **Religious Beliefs**

- What religions are predominant in the area?
- Who is the actual leader of the local religious community?
- What power does the formal religious system hold over daily life?
- What do key religious narratives signify and whom do they support?
- What gives a religious leader authority: scholar, lineage, charisma?
- How do these leaders relate to varied sects: popular, learned, elite?
- Are religious practices focused: on the present social welfare of the people, or in the hereafter, or both?
- What conflicts/disagreements of the area exist between the local religious practices and the formal religious system?
- How prominent is religion as an explanatory feature for people about: history, current events, or historical trajectories?

- How do local practices of the religion, encountered elsewhere, differ from what the U.S. Military thinks it is supposed to look like?
- According to locally-held religious beliefs, what is the way the world is supposed to be, and how does U.S. Military presence impact that?
- In areas where the U.S. Military operate, what religious practices are actual (vice theoretical); are these religions affected by the culture?

g. **History, Imagined Memory, Folklore**

- What key myths associate with social control?
- How does this society perceive current and past events?
- What histories, folktales, and sayings teach significant ideals?
- What sayings/folktales do people refers to in daily conversation?
- With outsiders, does society defer to ethnocentricity or relativity?
- Is there any historic significance of the area being invaded/isolated?
- How do differing groups give meaning to the same historical stories?
- How did society handle past cultural changes: syncretism, pluralism, or assimilation?
- What pivotal historical stories and critical cultural narratives do people in the community share?
- Are people taught in school to follow the party line or challenge authority and conventional wisdom? How are they taught: Socratic dialogue, rote memory, or other? What stories are taught for them to believe about themselves and from where they come?

- To what degree do people identify with a national myth? Which myths explain the essence of the nation? Does this conflict with other social structure bases: ethnicity conflicts, tribal conflicts, etc.?
- Do people have significant emotional life events; how recent? Does myth tint these events, which myths, and which groups foster these myths to their own ends?
- How are these histories, folktales, and sayings used to influence propaganda about U.S. Military and U.S. activities in the region?

Step 7: What deductions can you come to, based on the aggregate of the collected information?

a. Analyze the results of all information acquired.
b. Determine the "so what". Given the reason or motive for conducting the analysis, synthesize the results.
    - How does the information provide insight as to how another culture might react to U.S. Military presence?
    - In what ways does the information illuminate "how they might think" about various issues

Deception Detection

This ACT tool was adopted for use by the University of Foreign and Military Cultural Studies.[21] Antagonists would be remiss if they did not try to deny or manipulate our intelligence assets. Information can be shaped to mislead us. Many of us do not assume every piece of intelligence is valid, but few know how to screen for the possibility of deception. Even in the most benign of situations, we can become overly confident in the effectiveness of our techniques and fail to consider the possibility of deception. In any event, posing the hypothesis of deception is a considerable cognitive burden. Probing for clues of deception can be frustrating and time consuming, requiring extensive vetting, fact checking, and hypothesis testing. This tool offers a process for determining if deception may be present.

When to Use

We are always wise to consider the possibility of deception, especially if we were party to developing the intelligence or if there is a history of its use. Moreover, when stakes are high, or if a deceiver could have a lot to gain from the deception, considering possible deception is crucial. Also consider the maxim, "If it seems too good to be true, it probably is."

Value Added

A well-developed set of indicators might actively mislead us. Deception detection adds rigor to any analysis effort and reinforces its efficacy. Once accepted, the possibility of deception puts all evidence under scrutiny and makes it difficult to accept inferences without thorough vetting and solid evidence. A checklist of questions can prevent paralysis.

The Method

Task a team to screen your key practices and products for deception.

1. Have them measure the likelihood of deception. (Acronym: Check Mom, Pop, Eve, and Moses for any possibility of active deception.)
    a. (MOM) Does any actor have Motive, Opportunity, and Means?
        i. What are their objectives?
        ii. What are the means available to deceive?
    b. (POP) Is deception consistent with Past Opposition Practices?
        i. Has there been have a history of deception?
        ii. Does the deception fit prior patterns?
    c. (EVE) What do we know from the Evaluation of Evidence?
        i. How accurate is the reporting source?
        ii. Does the information from one source conflict with other sources?
    d. (MOSES) How probable is the Manipulability of Sources?
        i. How reliable is the source?
        ii. Is there reason to believe the source is being controlled?

    2. Then have participants employ the Analysis of Competing Hypotheses (ACH) and explicitly pose deception as one of the multiple explanations for the presence, absence, or disconnect of any information.

Devil's Advocacy

This ACT/GTM tool was adopted by the University of Foreign Military and Cultural Studies from *Heuer and Pherson, Structured Analytic Techniques*.[22] Its purpose is to challenge a single, strongly held view or consensus by building the best possible case for an alternative explanation.

When to Use

Assertions have been formed prematurely, without first considering alternative perspectives. It is a technique designed to help expose implicit assumptions and faulty reasoning.

The logic behind Devil's Advocacy stems from the cognitive challenges of decision making discussed by *Richards Heuer* (*The Psychology of Intelligence Analysis*) and *Morgan D. Jones* (*The Thinkers Toolkit*):

- We commonly solve problems by first forming a conclusion, and then using available evidence to support it. "[We tend to] favor a particular outcome or solution early on in the analytic process...long before we can objectively analyze the evidence and reach a conclusion." (This is the cognitive bias known as confirmation bias.)
- We tend to perceive what we expect to perceive
- We tend to value information that is consistent with our views, and reject or overlook information that is not
- We can easily become wedded to a pre-existing plan, person's reputation, etc., which precludes us from continuing to think critically about that plan, person, etc.

Value Added

Devil's Advocacy helps Red Teams expose faulty reasoning, especially when the beliefs or assertions in question are the result of "conclusions jumped to." The tool will help establish

additional evidence which should have originally been considered; it helps illuminate evidence which was either intentionally or unintentionally disregarded or ignored.

The Method

Conducting Devil's Advocacy tool is simplified by demonstrating the opposite idea of a state belief or assertion. Do this by 1) considering the same evidence, some of which may have been disregarded or ignored, and by 2) finding new and disconfirming evidence originally unavailable.

Example

Given a stated position: "The U.S. Federal Government should not directly fund private schools"

- State and prove the position in its opposite form: "The U.S. Government should directly fund private schools, because…"
    - Enumerate reasons why this should be so. Consider all evidence originally available, especially that which was disregarded or ignored. Oftentimes, evidence can support several hypotheses, based upon its interpretation.
    - Actively search for new evidence which proves this opposite assertion.
- Disprove the original belief or assertion:
    - Reasons in the "stated position" which are faulty
    - Reasons in the "stated position" which were ignored/overlooked
    - Reasons which are missing from the "stated position"
    - Consider any implicit assumptions upon which the "stated position" rests

Divergence - Convergence

This ACT/GTM tool was adopted by the University of Foreign Military and Cultural Studies from *Morgan Jones, The Thinkers Tookit* and *J. Russo and Paul Schoemaker, Winning Decisions*.[23] This tool is a problem-solving model based on the notion that we must first think broadly to consider possibilities and options before we think narrowly and decide.

When to Use

During decision support activities for any particularly complex, important, or polarizing issue.

Value Added

Everyone shares the process, gets a say, and owns the conclusion.

The Method

The exercise begins by describing the situation, preferably with a focused question or problem statement. It is important to avoid constraining responses by imposing limits on resources or options. For example, funding may be a concern, but limiting the responses to ones that stay within budget stifles creativity. By allowing the group to be truly divergent, you may find a seemingly expensive option that costs less than expected by approaching it in a non-traditional manner.

Step 1 (Divergence): After stating the problem, capture ideas. **Think-Write-Share** is an excellent method of initiating the process of critical thought. To begin tackling the issue, first, think independently and reflectively, then write down your thoughts to shape and refine them, and finally share them in an orderly fashion using a technique like **Circle of Voices**.

Four Golden Rules:

1. The more ideas the better
2. Build one idea off another
3. Wacky ideas are okay
4. MOST IMPORTANT: Don't evaluate ideas (Research has demonstrated that others build upon wacky or unrealistic ideas. They liberate the imagination.)

Step 2 (Debate): Discuss the ideas presented, identifying themes and conducting preliminary evaluation of viability. This will result in grouping some ideas, eliminating others as impractical or inappropriate, and creating new ideas from aggregates. Cluster, combine, refine, and rewrite as needed until you have a list of viable options.

Step 3 (Convergence): Refine the most intuitive and promising ideas. Integrate other tools (**Dot Voting**, **5 will get you 25**, etc.) to further narrow the field of ideas. Consider regrouping and reorganizing ideas based on other parameters such as time, function, geography, who does the action, who is the customer or recipient, etc. Use other tools (**5 Whys, SWOT**, etc.) to further analyze and refine the ideas. Narrow to find the most viable solution that is most likely to achieve the desired goal.

Caution

It is easier to analyze and think narrowly than to create and think broadly. This can lead to an absence of divergent thinking up front, resulting in a narrow analysis of preconceived notions; this behavior is why some brain teasers fool us. Hence, intentional divergent thinking must be an inherent first step. If

a participant offers an idea that matches an unstated idea on your list, cross it off, move on, and offer something not yet raised. This will aid divergence by getting more ideas on the board, and you can voice support for the matching ideas during the convergence phase. Additionally, monitor the process carefully to determine appropriate timing. Converging too early means you haven't considered enough options, while converging too late means you wasted time by diverging too much. The latter often happens when the initial problem statement is too vague and allows scope creep.

Example

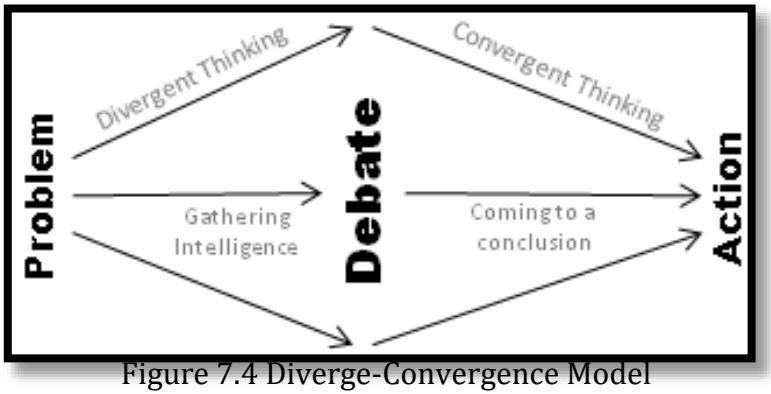


Figure 7.4 Diverge-Convergence Model

This example is a visual adaptation of Divergence-Convergence (see Figure 7.4) from *Russo, J. Edward and Schoemaker, Paul J. H., Winning Decisions: Getting It Right the First Time.* This figure or model is a means for groups developing a better decision process. The Red Teamer always needs to think in terms of divergence – convergence so they are aware of what tools they have and when to use it, where we are at with the problem, what new ideas have emerged in order to analyze or debate, and where are we going so we can converge on the better solution or action.

See Also

Ideal Group Process

Dot Voting

Dot voting is a weighted anonymous feedback method adopted by the University of Foreign Military and Cultural Studies.[24] This GTM tool is designed to identify and rank the group's perspectives concerning a posed question or problem.

When to Use

Use in time-constrained and/or option-rich environments in which teams must prioritize their efforts and attention, as there is simply not enough time to address all legitimate issues. Dot Voting is a forcing function to identify all potential outcomes possible as determined by the team and then focus the effort on pertinent critical outcomes as voted on by the whole group.

Value Added

The value of this approach is as follows:

- Ensures all ideas in groups are presented equally for consideration.
- Forces each person to prioritize a macro list of ideas by having just over half as many votes as the total number of issues (e.g., 7 votes to divide among 12 options), but also gives them the opportunity to spread votes and emphasize more than one compelling issue.
- Gives some indication of the weight of each idea with respect to each other (a group score of 40 is significantly higher than a group score of 20 even though 20 may be the second highest score). This can be used to develop what the weighted / priority factors for a course of action and/or problem should be.

The Method

1. Present a question or problem statement and have participants individually and anonymously pre-commit their answer on an index card.

2. To remain anonymous, collect the cards, shuffle them, and transfer the ideas to a whiteboard or butcher paper. If anonymity is not a concern, the participants can present their ideas one at a time until everyone has exhausted their initial pre-committed list.

3. Group the inputs in the broadest possible way so that no two topics remaining on the list overlap with each other (i.e., each topic is distinguishable from each other). All inputs are initially considered no matter how unusual or extraneous.

4. Number the distinguishable issues worthy of the group's energy and attention.

5. Each member then writes the macro list of the numbers in a column on a fresh index card.

6. Explain to the group members that they have a set number of votes (often half the total number of choices plus one, though fewer is acceptable; for 12 choices, 6 + 1 = 7 votes). Round odd numbers down (11 choices = 5.5 + 1 = 6.5 votes, round to 6 votes).

7. Each member then 'dot votes' the ideas, using all their votes as determined in step 6, by placing one or more dots next to the number of the topics they favor. The facilitator identifies the rules, determining if there is a limit to the number of votes per entry. Participants can be required to use a one-vote-per-idea scheme, meaning they will have as many ideas selected as they have votes. They can be given freedom to vote as desired, meaning all votes can go to one idea if they so choose, or they can be limited to no more than two or three votes per idea, allowing them to weight their

preference while still spreading their votes to multiple choices.

8. Collect the index cards and total the number of votes for each idea or issue. Use the vote totals to rank the ideas based on the sentiment of the group; the more dots an idea receives, the stronger the group feels about that idea. Focus follow-on effort on the highest-ranking ideas.

Caution

For this to work properly it is absolutely critical that ideas don't compete against each other during dot voting, so creating distinguishable issues is a key part of the process. Also ensure group members clearly understand the voting methodology to avoid confounding the process.

See Also

5 Will Get You 25

Example

1. Topic: Provide issue, challenge or solution
2. Group: 5 participants.
3. Pre-committed ideas developed: 21 distinguishable ideas.
4. Voting: Each participant has 5 votes; individuals can vote 2 times on any one problem and one time on three problems or vote one vote on five problems.
5. End state: Voting reveals weighted group sentiment favoring three ideas, on which the group can then focus their attention using additional tools.

Fishbowl

This ACT/GTM tool was adopted by the University of Foreign Military and Cultural Studies from *The Surprising Power of Liberating Structures*.[25] The tool is aimed at developing active reflection, listening, and fresh perspectives.

When to Use

A fishbowl conversation is a form of dialog that can be used when discussing topics within large groups. Fishbowl conversations are sometimes also used in larger participatory events.

Value Added

The fishbowl allows the entire group to participate in a conversation by first observing the discovery process performed by a smaller group, then performing divergence-convergence based on those findings. This method often takes less time than if the entire group were to participate in the discovery phase.

The Method

1. Create a circle of chairs in the center of a larger circle; five to six is a good number. If you have a very large group, there may be multiple outer circles.
2. Invite a small group of people that have direct experience with the challenge into the small circle of chairs at the center. Ask this group to talk about the challenge together, sharing stories of their direct experience and insights as they might do if they were sitting in a coffee shop or at dinner together. They talk to each other, NOT the audience. The audience listens and takes notes.

3. Invite the audience to ask questions and share their insights about the conversation while those in the center circle just listen. Gather all the questions. You might want to use index cards or have someone capture all the questions on chart paper.
4. Facilitate a dialogue between the two circles. Ask questions to develop ideas and insights. (e.g., What did you hear that surprised you? How has your perspective on the issue changed? What questions are still open for you?

Caution

To include both participants with introverted and extroverted communication preferences, consider breaking down the dialog into smaller groups so all perspectives are heard.

See Also

Circle of Voices, Appreciative Interview

Example

1. Topic: Select issue or challenge within group (8-15 indiv.)

2. Develop two sides of the issue and select two individuals or two small teams to debate the issue for a specified time (5-10 min). Place two sides in center of group or room with other participants as audience watching. Only have those two sides in center discuss their ideas and viewpoints for and against.

3. Outside Participants (5 min). At end of debate, have outside participants address the points and add ideas and insights pertaining to the discussion, highlighting and developing innovative ideas, gaps in logic, and areas of information not known to group.

4. End state (5-10 min). Through the internal and external discussions, the group fully develops the problem and examines

issues introspectively to drive further discussion through facilitated questions and development of gaps in logic and knowledge. This method ensures the group has a foundational understanding of the issue before tackling associated problems.

Frame Audit

This ACT tool was adopted by the University of Foreign Military and Cultural Studies from the book *Winning Decisi*ons.[26] We all have biases that shape the frames through which we view the world and make decisions. Being aware of frames, both our own and those of others, improves our view and appreciation of issues in ways that leads to better decision making.

When to Use

Use this tool to analyze a frame under consideration or currently in use.

Value Added

It can uncover faulty, unsatisfactory, or less-than-successful frames, allowing us to reframe an issue in a more logical, helpful way.

The Method

Separate the frame into individual components and ask:

1. What metaphors are used for the issue(s)?
2. Which issue(s) does the frame address most? Why?
3. What yardsticks and reference points measure success?
4. What does the frame emphasize or minimize, and why?
5. Why do we view the issue(s) in this way? What experiences frame our view?
6. How is the issue(s) bounded? What is included in the frame or left out of consideration?
7. Do others think about the issue(s) differently, how so, and why? How successful are their frames?

Caution

Examining frames is time-consuming, especially when you analyze the frames of others.

Gallery Walk

This GTM was adopted by the University of Foreign Military and Cultural Studies.[27] This tool has multiple stations staged as a 'gallery' of artifacts or ideas for multiple teams to circulate among and discuss. Each team has role players: leader, reporter, monitor, and recorder.

When to Use

When sharing external, individual, or small group ideas and products within a larger group. Great practice for observation, teambuilding, and learning to work effectively in groups.

Value Added

Answers evolve as groups contribute new ideas during each round. The facilitator nurtures discussion and involves disengaged members.

The Method

Teams begin at different stations and rotate clockwise to the next station after finishing prescribed tasks/questions. After all teams have viewed all stations, everyone meets for a 'Report Out.' The facilitator collects perceptions and solicits feedback on the process.

1. Prepare the Concept - Strategize the central intent for the exercise. Prepare steering questions (Bloom's taxonomy, higher order thinking, examples, etc.)
2. Rehearse - Visualize the process onsite from the point of view of a participant. Ensure clarity and availability of materials and space.
3. Prepare the Stations – Create stations based on external ideas or individual or group products. Position artifacts, questions, and response space.

Decide whether to use butcher paper, notepads, index cards, scribes, or other recording techniques.

4. Prepare the Groups (see Figure 7.5) - Divide into teams and assign roles. Clarify the process and tasks and distribute writing material. Assign roles:
    a. Leader – keeps the group on task and prompts participation
    b. Monitor – keeps track of time and status of other groups
    c. Reporter – presents the group's thoughts to the larger group during the report out
    d. Recorder – records the group's thoughts and comments throughout the exercise
5. Begin the exercise - Position groups at different stations and start the clock. The members perform their roles as the group examines and discusses the material at the station. After 5 minutes, rotate groups clockwise to the next station. Continue rotations until every group has visited every station.
6. Monitor the Groups - Nurture discussions and involve each player. Rephrase questions to provide hints and redirect players.
7. Report Out - Give groups 10 minutes to synthesize their recorded notes. Give each reporter 5 minutes to present a summary. After all, report out, recap key points and discuss insights about the process.

Variations

1. To inject additional cooperative learning, switch roles at each station, allowing participants to experience each role and its challenges. For greater interaction, add an ‘emissary’ rule to channel queries for the

instructor through one member. To encourage debate, request a concise consensus at each station, recording pithy bullets in a 'public journal'.

2. Gallery Run is a 'walk' at 'run' speed or a faster pace. Questions are of lesser scope and/or lower order for less discussion time. More rounds occur, with each round completed more quickly. The Report Out will still engage higher order thinking.
3. Computer Tour - Post on computer(s) rather than the wall. Groups can post images or change them quickly for each round.

Example

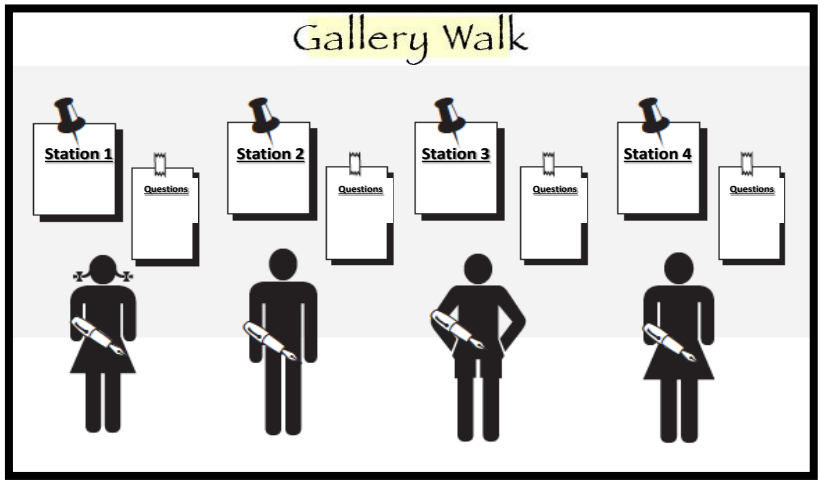


Figure 7.5 Gallery Walk

High Impact / Low Probability Analysis

This ACT tool was adopted by the University of Foreign Military and Cultural Studies from *Heuer and Pherson, Structured Analytic Techniques.*[28] This analytical technique is used to highlight the art of the possible by refocusing attention on seemingly unlikely yet plausible events that, if realized, will cause significant impact to the operational environment and disruption to the projected trajectory. Author, scholar, and risk analyst *Nassim Nicholas Taleb* popularized the moniker "*Black Swan*".[29]

When to Use

This technique can be used throughout the decision and planning process. Early in the process, it is an excellent vehicle for encouraging creativity and breaking existing frames and mental models by challenging people to consider the unthinkable and/or most plausible. In mid-stride, it can be used as a contrarian technique to mitigate premature convergence, or fixation on particular outcomes, such as "most likely." Lastly, it can be used as a communication vehicle to dispute strongly held convictions of decision makers by challenging assumptions and presumptions.

Value Added

Broadens understanding of a problem or situation by exploring the consequences without challenging the prevailing view. Additionally, the technique provides rigor and adds robustness to a 'story' that can be used to challenge prevailing assumptions and presumptions and enables self-discovery of issues and concerns.

The Method

- Define the high-impact outcome clearly (see Figure

7.6). This process is what will justify examining what most analysts believe to be a very unlikely development. A Premortem Analysis can help at this point. Plausibility is critical; it's okay if the outcome has never happened before, as long as it could happen.

- Devise one or more plausible explanations for or pathways to the low probability outcome. These should be as precise as possible, as they can help identify possible indicators for later monitoring.
- Insert possible triggers or changes in momentum if appropriate. These can be natural disasters, sudden health problems of key leaders, or new economic or political shocks that might have occurred historically or in other parts of the world.
- Brainstorm with individuals having a broad set of experiences to aid the development of plausible but unpredictable triggers of sudden change.
- Identify for each pathway a set of indicators or observables that would help you anticipate that events were beginning to play out this way.
- Identify factors that would deflect a bad outcome or encourage a positive outcome.

Note: This technique is highly effective and complimentary when used with Premortem, Alternative Futures, Indicators or Signposts of Change, GTM, What if Analysis…, and Risk Management.

Caution

Carefully communicate likelihood, while avoiding both minimization and overstatement. Avoid having the concept dismissed outright!

Example

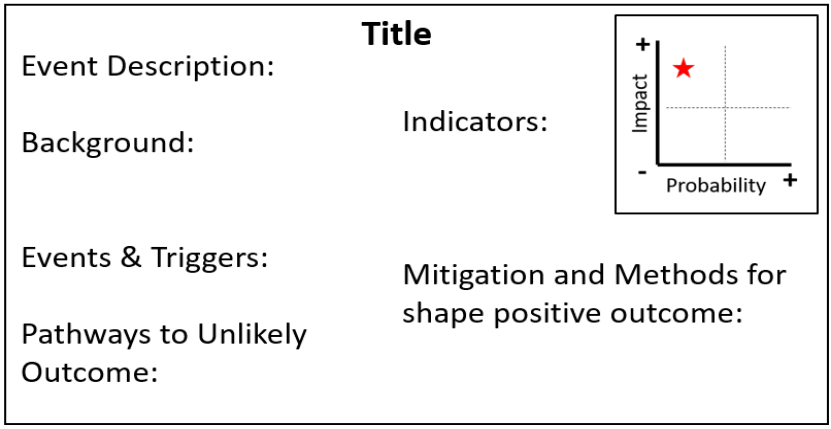


Figure 7.6 Figure Diagram to present Analysis

Indicators or Signposts of Change

This ACT tool was adopted by the University of Military and Cultural Studies from many external resources.[30] An analyst or team creates a list of observable events (Indicators, Signposts, or Measuring Sticks) that one would expect to see if a postulated situation is developing, e.g., economic reform, military modernization, political instability, or democratization. Periodically review the list of observable events or trends to track events, monitor targets, spot emerging trends, warn of change, or evaluate the status quo.

When to Use

When required to add rigor to analytical argument and prevent premature convergence in uncertain and ambiguous environments. This technique is primarily a complimentary technique, adding value to other techniques serving four primary roles:

1. Adds rigor, depth, and robustness to the story or narrative created in other explorative and forecasting techniques, Analysis of Competing Hypothesis, Premortem, Alternative Futures, "What if…", etc. It strengthens the argument and increases the plausibility.
2. Allows events and trends to be placed into context over time and serves as a "tickler" for detecting changes in the operational environment to include the strategic calculus of stakeholders. This encourages a long view and more objective interpretation of events.
3. Objectively manages disagreement, especially when there are sharply divided views on an issue. This technique can "depersonalize" the argument by shifting analytic attention to a more objective set of

criteria, once all sides agree on the set of objective criteria used to measure the topic under study.

4. Aids development of objective criteria required for an assessment regime or as a qualitative equivalent to "measures of effectiveness" (MOEs).

Value Added

By providing an objective baseline for tracking events or targets, signposts instill rigor into the analytic process and enhance the credibility of analytic judgments. An indicators list included in a finished product also allows the policymaker to track developments and builds a more concrete case for the analytic judgments. By laying out a list of critical variables, analysts also will be generating hypotheses regarding why they expect to see the presence of such factors. In so doing, the Red Team can make the analytic argument more transparent and available for scrutiny by others.

The Method

Whether used alone or in combination with other structured analysis, the process is the same:

- Identify a set of competing hypotheses or scenarios
- Create separate lists of potential activities, statements, or events expected for each hypothesis or scenario
    - Each Indicator or signpost needs to be:
        - Unique
        - Valid
        - Observable
        - Collectable
- Regularly review and update the signpost/indicator lists to see which have occurred, which have changed, and which have not occurred.

- Identify the most likely or most plausible hypotheses or scenarios, based on the number of changed indicators that are observed

Developing two lists of indicators for each hypothesis or scenario may prove useful to distinguish between indicators that a development is or is not emerging. This approach is particularly useful in a "What If?" Analysis, High Impact / Low Probability Analysis, when it is important to make a case that a certain event is unlikely to happen. It also complements the Premortem Analysis, to help identify the items that if achieved would result in a flawed assessment or a failed plan. A checklist of questions to detect possible deception can prevent the analyst from becoming intellectually paralyzed.

Caution

Like all things, be mindful as signposts and indicators are subject to cognitive bias, faulty analogy, and underdeveloped theory. Check and assess prior to using.

Key Assumptions Check

This ACT/GTM tool was adopted by the University of Foreign Military and Cultural Studies from *Heuer and Pherson, Structured Analytic Techniques*.[31] This tool is a simple exercise to clarify the assumptions in play and that the project does not rest on flawed premises.

When to Use

Most useful at the beginning of any analytic project, although testing assumptions can be valuable at any time prior to finalizing judgments. Key Assumptions Check will explain the logic of the argument, stimulate thinking about an issue, acknowledge factors that shape an issue, and identify changes that would eliminate an assumption. Also, the tool will expose faulty logic, surprising circumstances, and obscure relationships between factors.

Value Added

Flawed assumptions will quickly waste time and efforts. Additionally, identifying hidden assumptions is a difficult challenge for any project, as they are often ideas unconsciously held to be true, and therefore are seldom examined and almost never challenged.

The Method

List and review the key working assumptions on which fundamental judgments rest. Consider how the analysis depends on the validity of a certain premise, which is seldom questioned or doubted.

1. Write down the current analytic line on the issue for all to see.
2. Delineate every premise, stated or unstated, that is accepted as true for the analytic line to be valid [the

assumptions].

3. Challenge each, asking if it must be true and if it remains valid under all conditions. Then reduce the list to only those that must be true to sustain the analytic line.
    a. Why it must be true?
    b. Does it remain valid under all conditions?
    c. How much confidence exists that this assumption is correct, and what explains this degree of confidence?
    d. What circumstances might undermine this assumption?
    e. Is this assumption most likely a key uncertainty or key factor?
    f. Could this assumption have been true in the past but false now?
    g. If the assumption proves to be wrong, how does it significantly alter the analytic line?
    h. Has this effort identified new factors that need further analysis?
4. Sometimes it is difficult to identify which assumption is the key assumption that needs to be addressed first. The following is a way to visually depict the key assumption:
    a. Create a numbered list of the assumptions (e.g., if you have five assumptions, label them with numbers 1-5 (see Figure 7.7).
    b. Encase each number with a geometric shape (e.g., inside a circle or square)
    c. Determine the relationships among the numbered assumptions. Does one assumption influence the other(s)? Does one require the validity of another

to be true?

d. Connect the assumptions. The assumption with the most linkages is the assumption that needs to be questioned first. The assumption that has the next most linkages needs to be reviewed second, and so forth.

e. If there are any assumptions that have an equal number of linkages, utilize a weighted anonymous feedback technique such as Dot Voting to get unvarnished feedback on prioritization of how to validate or refute assumptions.

Example

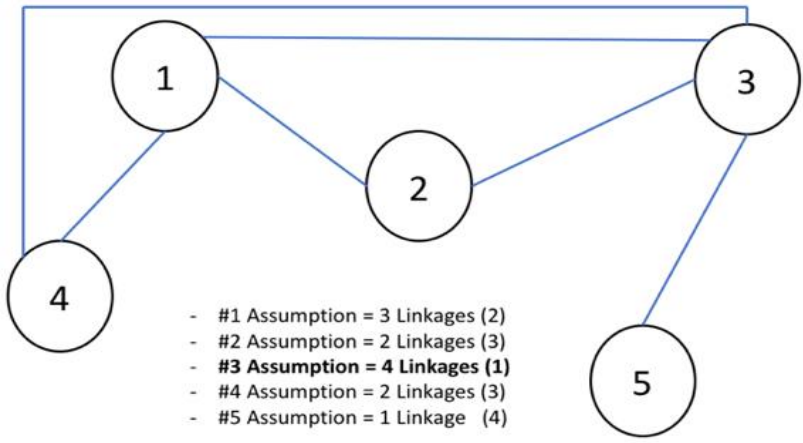


Figure 7. 7 Key Assumptions Check Diagram

Mind Mapping

This ACT/GTM tool is adopted by the University of Foreign Military and Cultural Studies from *Anthony Peter Buzan, Mind Map Mastery*.[32] Mind Mapping is a graphical tool that allows users to diagram ideas and thoughts in ways that both promote clearer understanding and facilitate further development and creativity. This visualization process uses text, image, ratio, color, and spatial arrangement to illustrate concepts and spark associations in the brain.

When to Use

To visually represent the complex connections of an idea or topic to achieve better understanding, identify gaps, and spark creativity. It can be a useful way to take notes, brainstorm, plan, study, memorize, solve problems, research, or convert ideas into constructs (see Figure 7.8).

Value Added

In contrast to linear text and traditional note taking, information is structured in a way that resembles how your brain navigates it. This visual approach can be particularly useful when people are overwhelmed with typical blocks and pages of text, as it is both an analytical and artistic activity. Many software tools build mind maps, organize them, and save them for later. For example, these are the characteristics of mind mapping:

- The main topic crystallizes as the central focus.
- Key themes radiate from the central focus; branching in a nodal structure.
- Branches navigate key elements, where 'twigs' appear as the lesser ideas.

The Method

Get a marker/pen and a blank whiteboard or piece of paper (landscape). Start with a single word, symbol, or image. Let your imagination go and keep the labels as short as possible.

1. Think of your main theme and write or draw that word in the center.
2. Branch related subtopics around the topic. Use radial hierarchy to arrange your branches. Branch related elements to the subtopics. Attempt to think of at least two points off each branch. Develop lower-level elements as you see fit.
3. Amalgamate or look for opportunities to cluster, relate, conjoin, shorten, and improve labels. Be as visual as you can. Distinguish notions with the use of font, color, proportion, symbols, etc. Vary text size, color, and alignment. Provide copious visual cues.

Figure 7. 8 Mind Mapping
(Reprinted with permission from Brian Tarallo, LizardBrainSolutions.com)

My 15%

This ACT/GTM tool is adopted by the University of Foreign Military and Cultural Studies from *The Surprising Power of Liberating Structures*.[33] This has the potential to create transformational change incrementally by revealing individual freedom of action.

When to Use

- For any problem solving or planning activity in which you want individuals to take initiative.
- For any complex challenge or problem that requires many people to participate and buy-in to change for success to emerge.

Value Added

This technique can effectively empower and motivate people who otherwise feel powerless and negative in the face of a complex situation.

The Method

Most people have about 15 percent control over their work situation. The other 85 percent rests in the broader context, shaped by the structures, systems, events, and cultures in which they operate. This tool helps prioritize focus on the 15 percent within our control to drive positive change.

1. Ask: What is your 15% contribution to solving the problem? Where do you have the discretion and freedom to act without more resources or authority?
2. Ask each person to generate a list of personal actions (My 15%).
3. In small groups, share actionable ideas while others engage active listening, provide consultation, ask clarifying questions, and offer feedback. TROIKA and Yes…and would work well in this step.

Onion Model

This ACT/GTM tool is adopted by the University of Foreign Military and Cultural Studies from *Hofstede Manifestations of Culture*. [34] This model and framework (see Figure 7.9) for examining and analyzing culture and its components enables multiple groups to carry layers of mental programming simultaneously at varying levels within each corresponding culture.

Caution: While we can often see external manifestations of membership within a culture, an individual's core values are deeply contextual and learned, influencing layers of subsumed Practices. In other words, core values can often remain out of reach or be seen to outsiders.

When to Use

Early in any review of culture to expose ignorance, prompt better questions, and shape an all-inclusive perspective.

Value Added

The Onion Model depicts values wrapped in symbols, heroes, and rituals. It helps surface manifestations, differences, and similarities within or among the culture of a country, region, or group.

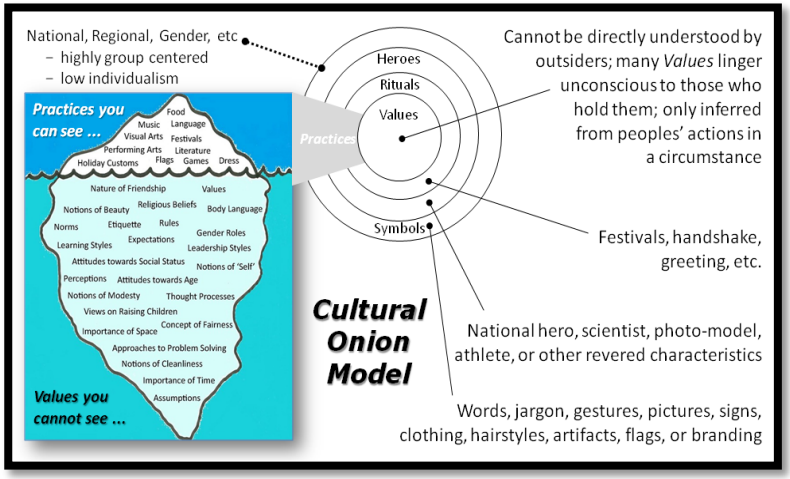
The Method

1. Observe individuals within the country, region, or group.
2. Interview individuals within that country, region, or group.
3. Postulate Core Values and Practice layers of the individuals.
4. Populate the model with core values and Practice

layers.

5. Compare/contrast the model against models of other groups. For example:
   - a Gender level, according to whether a person was born as a girl or as a boy
   - a Generation level, according to whether a person is a grandparent, parent, or child
   - a Social Class level, according to opportunities linked with educational, occupational, or social standings
   - an Organizational or Corporate level, according to how employees are/were socialized in their workplace
   - a National level, according to one's country (or countries for those who migrated during their lifetime)
   - a Regional and/or Ethnic and/or Religious and/or Linguistic Affiliation level; most nations are composed of culturally differing groups: regions, ethnicities, religions, and language

Figure 7. 9 The Onion Model Manifestation of Culture



Outside-In Thinking

This ACT/GTM tool is adopted by the University of Foreign Military and Cultural Studies from *Heuer and Pherson, Structured Analytic Techniques*. [35] A useful tool to alter perspective and reveal non-intuitive information. We typically think from the inside out. As such, we contentedly spend time concentrating on factors familiar to our experience and field of view. We then belatedly realize the need for additional categories and fields of data, prompting more gathering, reworking, and recodifying. We should have begun by considering the external changes that might, over time, profoundly affect the field or issue.

When to Use

Most useful early in the conceptualization phase of an analytical project to identify the full range of basic variables, forces, factors, and trends that could directly/indirectly shape a functional/regional issue.

Value Added

A measure of "Outside-in Thinking" early in the analytic process can reduce the risk of missing important variables. It can help visualize and assemble an entire set of database fields or information categories necessary for a thorough research effort.

The Method

Thinking from the outside-in begins with identifying all variables or factors that might influence how an issue could develop. Conceptualize the issue in broader and fundamental terms; beyond the Inbox. Uncover additional factors, an important dynamic, or a relevant alternative hypothesis.

1. Generalize the description of the issue, topic, or

problem. (utilize Figure 7.10 below to assist on visualizing the problem)

2. Ask what key forces exist (environmental, technical, political, social, and economic) upon which we are unable to exert influence: globalization, social stress, Internet, or global economy? List those forces.
3. Ask what key factors an actor or policymaker can influence: market size, customers, the competition, suppliers or partners, policy, actions, or behavior [allies or adversaries]?
4. Consider how these forces could affect the analytical project and determine which ones will actually have an impact.
5. Establish the necessary data streams.

Variations

Utilize bubble diagrams or mind-mapping techniques to assist you in visualizing the forces or factors around the issue, topic, or problem.

Example

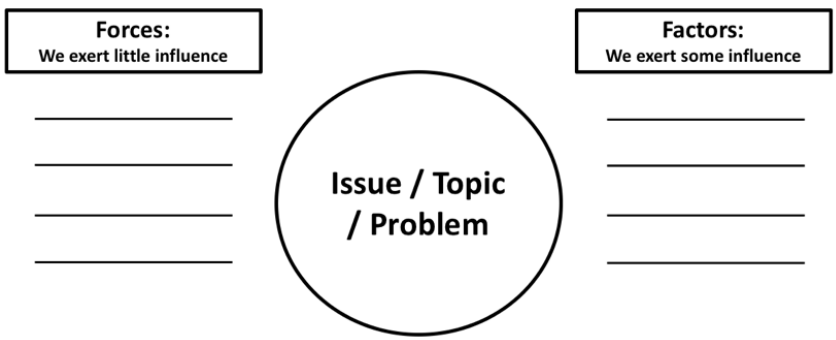


Figure 7.10 Outside-In Thinking Diagram

Premortem Analysis

This ACT/GTM tool is adopted by the University of Foreign Military and Cultural Studies from *Gary Klein, Sources of Power*.[36] Premortem Analysis is an exercise for finding key vulnerabilities in a plan. It might be categorized as a relatively quick mental simulation.

When to Use

The best time for a Premortem Analysis is prior to war gaming during the Military Decision-Making Process (MDMP) when: (a) wargaming the one selected COA, or (b) wargaming all of the proposed COAs.

Value Added

People can become overconfident once they have arrived at their plan. An active inquiry aimed at foiling trouble can negate the pull of a false sense of security, any consensus, or groupthink. The divergent phase of the exercise openly embraces objectivity and skepticism, prompting participants to question a course of action and its assumptions/tasks.

The Method

Unlike Risk Analysis, begin with the assumption that the plan has failed.

1. Prepare. At a minimum, participants must be familiar with the plan.
2. Gather and imagine the plan has failed. Accept the failure and answer, “What caused it to fail? How did this happen?”
3. Generate reasons for the failure. Allow participants several minutes to write down all the possible reasons they can think of. Do this individually first, so that the

insights and experience of each participant are brought to bear.

4. Consolidate everyone's lists into one long list. Solicit input from each participant, one at a time. Go around the room and record their ideas on a whiteboard or poster paper. Continue until all ideas are exhausted. This divergent phase must follow four rules:
    a. The more ideas, the better; more is better.
    b. Build ideas upon one another. If someone else's idea sparks a new idea for you, write it down.
    c. Liberate everyone from self-imposed restraints and fear of criticism or ridicule; risk-free. Do not filter or evaluate ideas. This includes body language, eye rolls, nods or groans.
    d. One subjective modifier could stifle that one saving fix. While unconventional or wacky ideas may seem foolish, they can also generate serious thought. Ideas need not be sensible, reasonable, constructive, or practical.
5. Revisit the plan. Based on the list of concerns, revisit the plan and determine how to mitigate each cause. Determine "ownership" and then assign the owner to develop modifications to the plan.
6. Keep and periodically review the list. This will help to keep the possibility of different types of failure fresh in everyone's mind as the plan develops or gets implemented.

Problem Restatement

This ACT tool was adopted by the University of Foreign Military and Cultural Studies from *Morgan Jones, The Thinker's Toolkit*.[37] When presented with problems, we often define them too broadly, focus on only part of the issue, or make invalid assumptions. As a result, we identify and settle on solutions too quickly and fail to resolve the problem. Restating the problem in creative ways can lead us to reexamine our perspective by helping us identify the component issues and their relationships, thereby increasing our likelihood of finding a better solution.

When to Use

When framing a problem, especially if it seems tidy and straightforward.

Value Added

Restating the problem will often show that it is more complex than anticipated, but the practice can also reveal hidden pathways to a solution. By generating new insights into the problem, the process can help identify root causes, refocusing efforts on the real problem. The tool becomes doubly powerful when it integrates a divergent process, restating the problem in as many ways as possible.

The Method

Do any or all of these to improve the problem statement.

1. Paraphrase the problem statement. Restate it using different words without losing the original meaning. Try saying the same thing with different words. These variations put subtle spins on the meaning, triggering new perspectives or informative insights.
2. Turn the problem on its head. Restate it in an opposite manner. Similar to Devil's Advocacy, provide a view

from the opposite direction to reveal a counter perspective.

3. Expand the view. Restate the problem in a larger universal context to reveal a too-narrowly-defined problem statement.
4. Redirect the focus. Look for unexamined variables affecting the problem frame. Then consciously, openly, and boldly change the focus of the problem. For example, if the original focus was boosting sales, change it to cutting costs.
5. Employ "5 Whys". Formulate a "why" to the initial question, then answer it, then do it again, and again, etc. The effect may reveal insights obscured in the original framing of the problem, as well as any murky or unclear thinking.

Caution

The most common pitfalls lie in the problem's definition. The definition will often be misdirected, too narrow, too vague, or lack focus.

Example

- **What should we do about readiness?**

  This example does not identify the problem.

- **Unit readiness rates are slipping. How can we get unit commanders to focus on training?**

  This example is too narrow and misdirected.

- **How do we sway Division HQ to provide more billets and equipment to increase our capability for X, Y, or Z?**

  This example contains an assumed solution; if wrong, the statement again misdirects the focus of the analysis.

- **Unit readiness rates are slipping. How can we get unit commanders to focus on training?**

The unit commanders may not be the root problem or lack focus; if not, pressuring them might aggravate the problem. Examine the issue. If an assumption is invalid, the statement misdirects the focus of the analysis.

Shifting the Burden

This ACT/GTM tool was adopted by UFMCS from *Peter Senge, The Fifth Discipline*.[38] Often a problem exists that will generate symptoms that appear to require immediate attention. However, for various reasons, the underlying source of the problem is not addressed and only the symptoms are treated. Peter Senge has called this phenomenon "Shifting the Burden." According to Senge, "Solutions that address only the symptoms of problem, not fundamental causes tend to have short term benefits at best. In the long term, the problem resurfaces and there is increased pressure for symptomatic response. Meanwhile, the capability for fundamental solutions can atrophy."

When to Use

To develop alternative perspectives and options and find leverage points residing in the system.

Value Added

Efforts directed only at a symptomatic solution, may appear beneficial at first, but only serve to exacerbate the problem over time, often with debilitating side effects. The problem could also mutate into something different if the solution does not address it, causing current symptomatic solutions to no longer be effective. This model can also help identify leverage points residing in the system.

The Method

The Method. There are four steps to building a "shifting the burden" model (see Figure 7.11).

1. Examine the symptoms (Identify the 'problem symptom')

2. Examine what you are doing to address the problem symptom (Identify one or several 'symptomatic solutions' that might relieve the symptoms for a while)
3. Decide what fundamental efforts are needed to address the issue (Identify the 'fundamental solution')
4. Review possible negative 'side effects' from the symptomatic solution (Identify the second and third order effects from your initial actions)

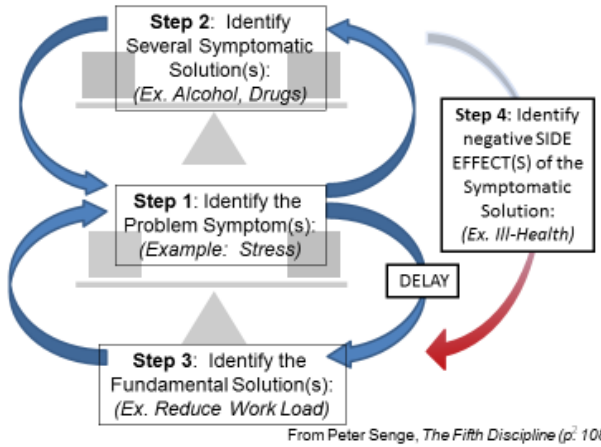


Figure 7.11 Build Your Own - Shifting the Burden Model

Senge suggests the way to deal with a shifting the burden structure is to simultaneously weaken the symptomatic response effort while strengthening the fundamental response. The challenge for a Red Team is to identify correctly the fundamental problem. While this process may sound simple, it can be more complicated in finding the fundamental solution. Dietrich Dorner identifies this in his book Logic of Failure when he mentions that, "human beings developed a tendency to deal with problems on an ad hoc basis…they solved some immediate problems but did not think about the new problems that solving the old ones would create." Addressing the fundamental issues will take both patience and persistence.

Red Team Application: The "Shifting the Burden" model structure comprises two balancing (stabilizing) processes. Both balancing loops try to correct the same problem symptom, but one addresses symptoms while the other addresses the underlying problem(s). Efforts directed only at symptomatic solutions, which appear beneficial at first, only serve to exacerbate the problem over time, often with debilitating side effects.

The addition of problem and perspective elements to the structure along with ACT and GTM tools to diagnose them make Senge's structure a richer framework for Red Teams to develop alternative perspectives and options (see Figure 7.12). Identifying the problem symptom as Senge suggests is a good place to begin, but rather than proceeding from there to identifying the fundamental solution (convergent thought process) this model recommends a close examination of the underlying problem(s) and perspective(s) before moving on to the solution(s). Begin by restating the problem. Sometimes restating a problem shows there is more than one problem. Try to show there is more than one problem or identify the problem symptom. Several tool recommendations are included in the illustration.

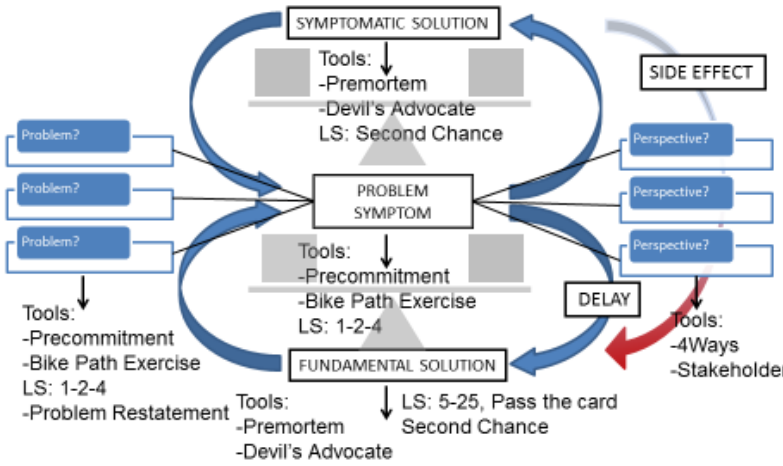


Figure 7.12 Shifting the Burden with ACT-GTM Tools

Example

Senge uses the example (see Figure 7.13) of reacting to stress to illustrate his point. In his model, the problem symptom is STRESS. The symptomatic solution is ALCOHOL. The side effect is HEALTH (deterioration). While the fundamental solution is a REDUCED WORKLOAD. Said another way, people feel stressed due to an increased workload or multiple competing demands on their time. The person resorts to drinking to get immediate relief from the stress. However, the alcohol does not address the root problem of reducing the workload and has an ill side effect of deteriorating health. In this case, continued alcohol consumption can lead to an ultimate addiction. This example can be illustrated below:

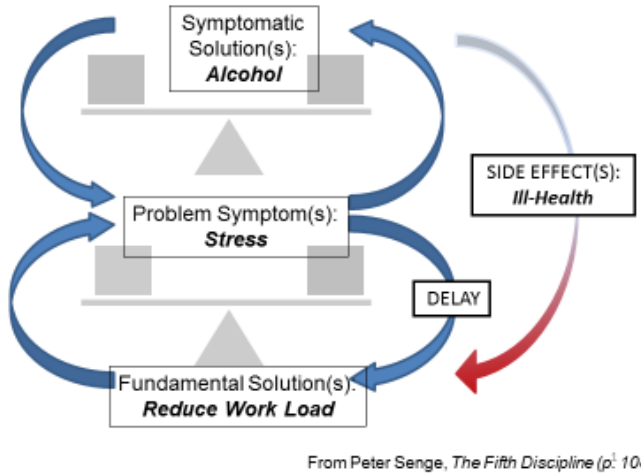


Figure 7. 13 Shifting the Burden Example Diagram

There are three clues in identifying the presence of a 'shifting the burden structure': (1) A problem exists that gets worse over time; (2) The overall health of the system gradually worsens; and (3) There is a growing feeling of helplessness. Situations of 'dependency' (ex. using alcohol to combat stress)

are classic examples of burden shifting.

Stakeholder Mapping

This ACT tool was adopted by the University of Foreign Military and Cultural Studies from *J. Bryson, L. Bourne and D. Walker*.[39] Stakeholder Analysis is a method of systematically identifying and building information about the interests and abilities of key parties who can affect or are affected by a given action or situation. Stakeholder Mapping is a type of stakeholder analysis that prioritizes unattended (non-key) stakeholders while also evaluating how action to address the unattended will impact the behavior of the key stakeholders.

When to Use

Stakeholder mapping is useful as a method for anticipating the interests, perceptions, and values of specific individuals in complex situations. It can be used to understand and anticipate the perceptions and actions of different groups of people during operational planning, strategy formulation, campaign design, or innovation. It is also a scalable tool that can be used in greater or lesser detail depending on the specific purpose and the time available.

Value Added

Plans and decisions can be sabotaged by a lack of appreciation for the perspectives, interests, and capabilities of individuals or groups that turn out to be critical participants. Stakeholder mapping is a method to avoid such errors; as such, it can augment and increase the effectiveness of other Red Teaming tools like the **Onion Model** and **4 Ways of Seeing**.

The Method

Stakeholder Mapping is a broad two-step procedure.

Step 1 - Stakeholder Identification & Attention: Identify all relevant stakeholders: those actors that are affected by, or can

affect, the issue at hand. Divergent thinking is the key to compiling as complete a list as possible. Now focus examination on those groups and individuals not considered in the original stakeholder analysis.

Step 2 - Stakeholder Examination & Prioritization: Depending on the time available and the purpose for the stakeholder mapping effort, there are several options for examination.

1. **Cultural Analysis**: When conducting any planning activity, a cultural analysis of the stakeholders can be invaluable. The Onion Model is useful here.
2. **Analysis of Interests**: Examine each stakeholder's underlying interests, not just their stated position. Identify areas of mutual interest (for building coalitions) and interest gaps (for anticipating opposition). 4 Ways of Seeing is useful here.
3. **Power and Influence Analysis**: Examine each stakeholder's sphere and fidelity of influence. In organizational settings, stakeholder power takes on several forms:
    a. *Position power*: from statutory/organizational authority
    b. *Personal power*: from relationship influences or traits
    c. *Political power*: objectives & means to achieve them.[40]

Step 3 - Stakeholder Silhouette: Depending on the time available and the purpose for the stakeholder mapping effort, there are several options for examination.

1. Plot a Combined Interest/Influence diagram (see Figure 7.14), showing stakeholders by degree of anticipated

support (X- axis) and influence over the issue (Y- axis). This creates a picture to inform a plan of action.

2. Develop a recommended action plan with clear goals to increase stakeholder support while adjusting or responding to levels of influence.

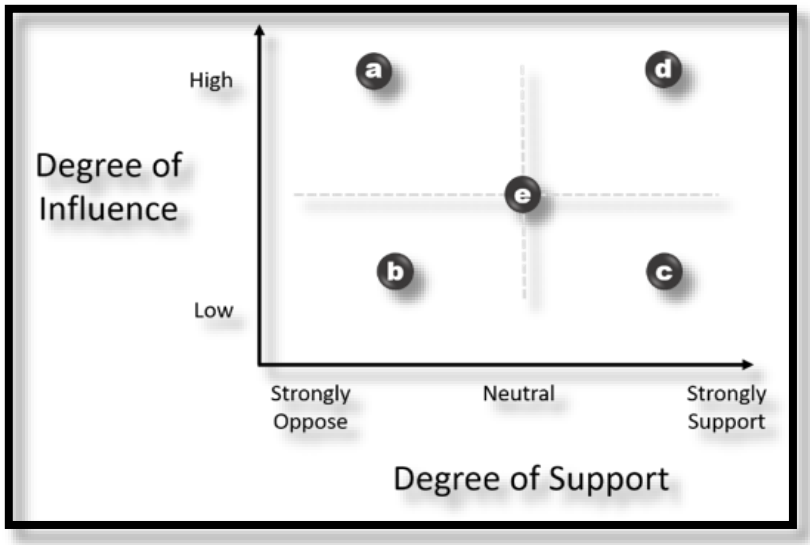


Figure 7. 14 Combined Interest-Influence Diagram

Caution

Keep these points in mind:

1. Results are subjective, imprecise, and vulnerable to biases.

2. Stakeholders change with time. Old stakeholders evolve/adapt, gaining or losing power, or even changing their interests as the situation unfolds. Furthermore, new stakeholders can emerge.

3. If leaders, teams, and staffs are mindful that other people will likely not perceive and interpret the world the same as they do, then Stakeholder Mapping can help them make better plans, decisions, and policies.

4. Both axes must be considered; in some cases, a stakeholder with minor opposition but high influence may be more important to the success of a plan than one with strong opposition but no influence. In other cases, the opposite may be true.

State–Elaborate-Exemplify-Illustrate (SEE-I)

This ACT tool was adopted by UFMCS from *Gerald Nosich, Learning to Think Things Through*.[41] SEE-I may also be called the C-I paradigm. It is a method of clarifying ideas or a means to understanding a particular idea better.

When to Use

When sharing ideas, this tool structures communication in a clear, meaningful, and lasting way.

Value Added

SEE-I can help individuals or groups refine important topics in a richly fused manner for themselves or others. The process can be iterative as each cycle through and revises prior steps.

The Method

Clearly state the idea, add your own description, give an example, and then close with an illustration. SEE-I has four steps:

1. State the idea clearly/succinctly in a single sentence; "The idea is …"
    i. Example: Learning is the act of gaining knowledge or ability.
2. Elaborate on the idea in a deeper paragraph; "In other words, ..."
    i. Example: In other words, learning is the process by which we gain some specific knowledge or skill (ability), in some depth. The process occurs through repeated reception, letting the neural network of mind/body adapt to the repeated input. Internalizing the knowledge deepens the

learning. When I learn something, I try to say it back, explain it, use it, and integrate it.

3. Exemplify the idea in a concrete/counter example, "For example, ..."
    i. Example: If someone learned about the American Civil War, they should be able to describe its features, its effects on later society, and reference multiple accounts. Or, a child could learn to ride a bike by guided practice and chance falls. Conversely, the child could repeatedly fall and never learn.
4. Illustrate the concept, "It's like ...
    i. Example: "It's just like riding a bike, you never forget."

Example

1. "This is what I think. The concept of _____ basically means _____."
2. "This is what I mean by it. In other words, _____ _____."
3. "For example, _____ _____."
4. "Let me illustrate with an analogy. Imagine _____ _____."

Storytelling

This ACT/GTM tool is adopted by the University of Foreign Military and Cultural Studies.[42] Linguists most conservatively estimate the evolution of oral language at a minimum of 175,000 years prior to the development of written language. Consequently, humans are wired to learn via storytelling.

When to Use

Storytelling can be used to establish a personal connection with an audience, to set a scene, to give or reinforce meaning, to provide context for the data being presented, or a variety of other purposes.

Value Added

Stories can be memorable; as we share a story, both the teller and the listener visualize the information being shared. As the information is incorporated into a compelling storyline, the story grabs and holds the attention of the listener. Hence, we innately elevate the quality of the dialogue. Most importantly, the listener more readily retains the information, and can accurately recount it in the future.

The Method

There are many techniques and structures for good storytelling, like the inclusion of metaphors and analogies, audience participation, surprise twists, and providing a moral to the story. Still, the storyteller should manage a few key characteristics, including context, level of detail, and length.

Context: Relate the story to the current discussion or topic presented.

Level of detail: Provide enough detail at the right level of complexity to make a point; do not sidetrack with distracting

extraneous data.

Story length: Present under time-constraints, in a length of time suitable to the venue and listener. In a meeting, the storyteller must limit the duration in an effort to allow listeners openings to draw out specific items of interest for discussion, so as not to interfere with the group's objective.

See Also

Fishbowl and Who Am I?

String of Pearls

This ACT tool is adopted by the University of Foreign Military and Cultural Studies from the *Army Directed Studies Office (ADSO)*.[43] We tend to examine most plans horizontally, looking for synergy across the tasks. However, this tool examines a plan vertically, linking major tasks to their assumptions, dependencies, and potential effects. It guides a rigorous search for liabilities precipitated by the plan itself.

When to Use

String of Pearls is best suited to a parallel planning process (see Figure 7.15), where the staff continues to plan separately while the Red Team independently assesses the plan, i.e., investigating effects and assumptions. Additionally, it can be used in concert or stand alone, i.e., an analysis of an enemy plan to surface differing strategies. Either way, exposing critical vulnerabilities in the plan allows the command to mitigate those liabilities.

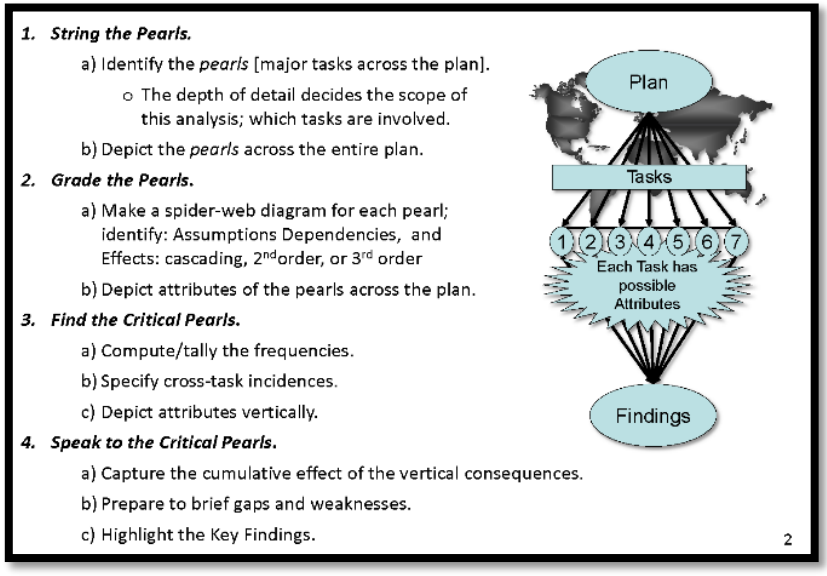


Figure 7.15 String of Pearls – Planning Process

Value Added

At a minimum, this tool informs the command of risks associated with the plan, identifying liabilities that need mitigation. As a plan unfolds, factors change, unintended consequences may occur while intended do not, and/or vulnerabilities may not endure. This is a means to "seeing" the cumulative effects in a plan: exposing wishful thinking, faulty assumptions, dependencies, vulnerabilities, etc.

This tool and its procedure:

- Identifies weaknesses and risks within a plan.
- Highlights the need for sequel and/or branched plans.
- Prevents the "unanswered" or "assuming the problem away".
- Prompts the command to consider unintended consequences.

The Method

Examine and visually communicate the sensitivity of the plan, isolating the vulnerabilities and effects of the plan, according to each task.

1. **String the Pearls.**
   a. Identify the major tasks [pearls]:
   b. Depict the pearls [major tasks] across the entire plan.
2. **Grade the Pearls (see Figure 7.16).**
   a. Make a spider-web diagram of each pearl.
   b. Identify valid assumptions, key dependencies, and possible consequences:
      i. What waves ripple from the plan?
      ii. What messages are sent, and who receives them?
      iii. How will they "interpret" them?
   c. Group the pearls by phase, layer, objective, or other.
   d. Make a diagram with all attributes vertically across the plan.

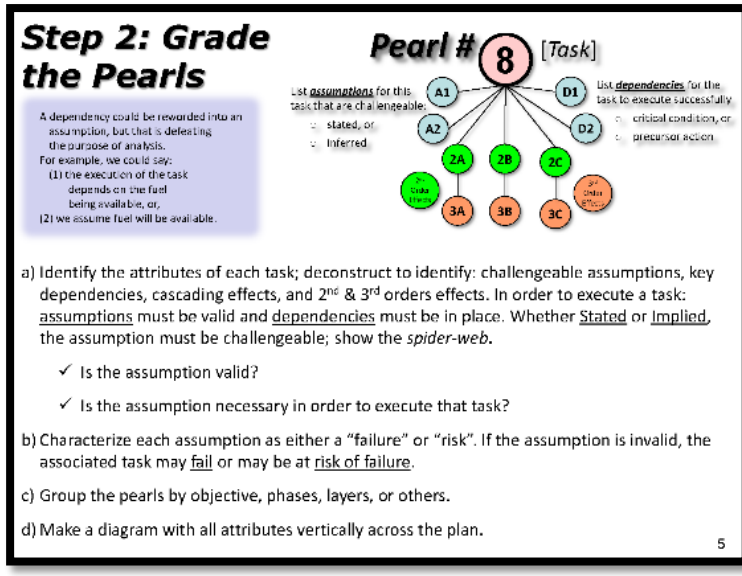


Figure 7.16 Grade the Pearls

3. **Find the Critical Pearls (see Figure 7.17).**
   a. Compute/tally the frequencies.
   b. Specify linked cases and weigh the vertical sensitivity: a Risk Assessment. What gets derailed? The greater the number, the greater risk.
   c. Depict attributes vertically.

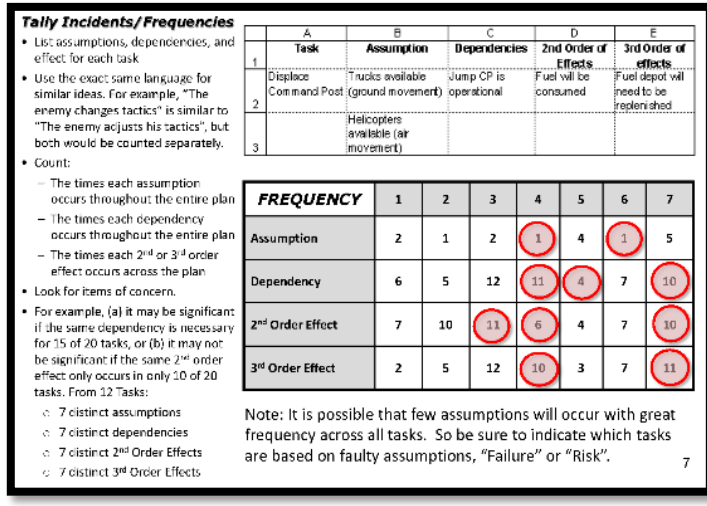


Figure 7.17 Find the Critical Pearls

4. **Speak to the Critical Pearls (see Figure 7.18).**
   a. Capture cumulative vertical consequences in need of a closer look. Recommend revisiting these tasks or writing branch plans to mitigate the consequences; adapt to the time available.
   b. Prepare to brief. In the end, the image must demonstrate these findings and conclusions.
   c. Highlight the key findings. Prioritize sensitive tasks, e.g., it may be significant if the same dependency exists in 15 of 20 tasks, or not if seven of 20 tasks invite the same consequence.

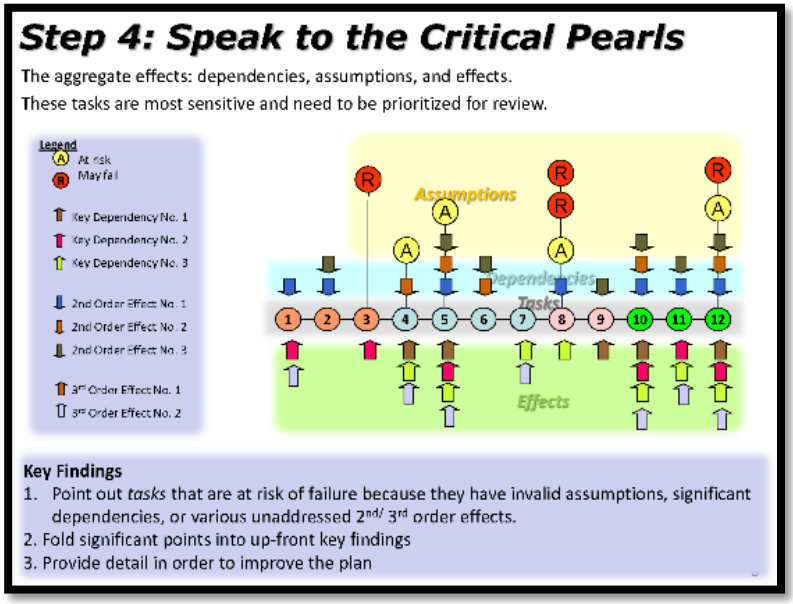


Figure 7.18 Speak to the Critical Pearls

Caution

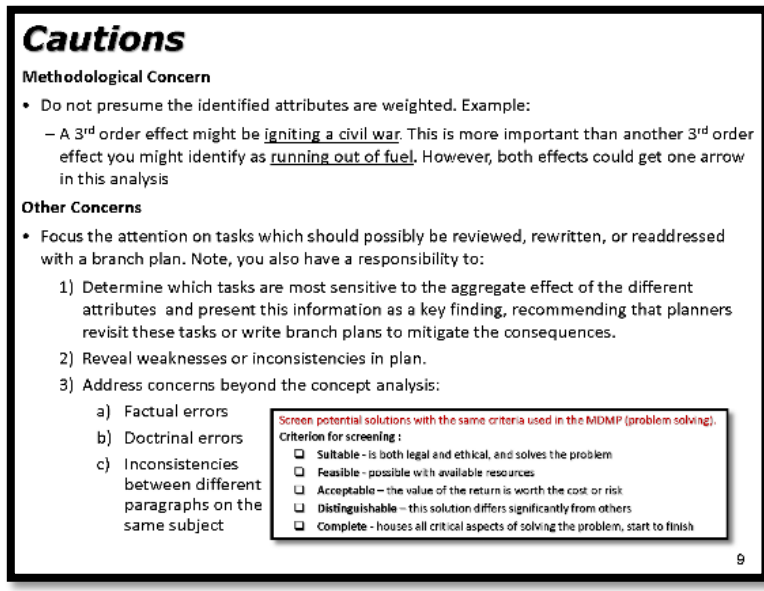
1. The attributes are not weighted. Ergo, two effects may have only one arrow; yet, one might ignite a civil war (clearly more important than running out of fuel).

2. Any task associated with an invalid assumption will be subject to failure or risks. Furthermore, if staffs consider

assumptions that are valid but unnecessary, they position extra work in their way, creating unnecessary roadblocks in the process.

3. Communicate the big ideas with minimal distractions. Apply consistent standards and naming conventions.

4. Allow sufficient time for analysis and build out. Include a legend.



Attributes

Assumption is a fact that you do not know but must assume to carry on the planning process. This assumption augments an unknown and has two characteristics. It is: (a) essential to solving the problem [necessary] and (b) likely to be true [valid].

Dependency is a fact at the time of planning, a critical condition or precursor (predecessor) necessary for successful execution of the task (successor). Task B can even depend on Task A, or vice versa.

The difference is chronological. There will be planning

assumptions and execution dependencies. “Where is it listed during mission analysis, facts or assumptions; is the answer available at the time of the analysis?” Assumptions can be re-worded into dependencies, but that defeats the purpose of this analysis.

[Assumption] We assume fuel will be available.

[Dependency] Our execution will depend on fuel.

1st Order Effect is the *act* of execution; occurs in the physical domain.

2nd Order Effect is the *feeling* about the execution; occurs in the affective domain.

3rd Order Effect is the *thought* about the execution; occurs in the cognitive domain.

Cascading Effect follows a chain of causality; an If—then pattern.

The point: Explore the potential in each change of the environment.

For example (Somalia):

Task: Disarm populace.

1st Order Effect: Populace surrenders personal weapons.

2nd Order Effects: “I feel emasculated because we can’t protect ourselves against the intruders.”

3rd Order Effects: Crime is rising, “I’m angry at the coalition for taking away my ability to protect my family.”

Examples

Visit Red Team Central for more examples of the String of Pearls. https://community.apan.org/wg/tradoc-g2/ufmcs-red-team-central/.

S-W-O-T Analysis

This ACT/GTM tool was adopted by the University of Foreign Military and Cultural Studies. [44] This framework, Strengths, Weaknesses, Opportunities and Threats, is designed to view a situation and its potential outcomes from four different perspectives.

When to Use

While SWOT can be used at any time, it is especially beneficial early in any analysis effort. Used in conjunction with the 4 Ways of Seeing, the tool can offer powerful insight. However, give some consideration to which of the two tools should be used first, and which should follow.

Value Added

SWOT helps to holistically reduce personal and cultural biases.

The Method

SWOT is a framework that adds value by essentially forcing the Red Team to think through the various perspectives of a given situation

1. Diagram four quadrants labeled: Strengths, Weaknesses, Opportunities, & Threats. (see figure below)

2. Brainstorm entries for each of the four quadrants.

3. Consider the scope of positive/negative consequences and respective impacts between quadrants or actors. Identify disconnects and plausible inferences of potential conflict.

Example

Analysts might recognize they are dealing with multiple political leaders on an economic issue within an area and must consider the interaction between the factions. The Red Team could analyze the potential inferences that actively affect the region's economy. Given the numerous actors, multiple iterations of SWOT Analyses with 4 Ways of Seeing would help consider factors influencing actor behavior as well as how each actor might view the others.

Team A / Team B Analysis

This ACT/GTM tool was adopted by the University of Foreign Military and Cultural Studies from *Heuer and Pherson, Structured Analytic Techniques.* [45] The Team A / Team B exercise is useful for an analysis and comparison of competing points of view. In a community or across agencies, a critical decision, longstanding issue, or competing hypotheses obstruct effective support. Often senior officials can learn more from weighing well-argued cases than from reading reports that mask substantive differences.

When to Use

When the policymaking community has at least two competing views on a key issue and is willing to commit significant time and resources.

Value Added

This technique may surface and describe important analytic differences within the expert community. It makes the key information and linked assumptions more transparent. Highlighting alternative views forces individuals to search for new information that can confirm or disconfirm differing hypotheses. In addition, the exercise can position individuals to argue the other side, exposing mind-sets for further reflection.

The Method

Charter separate teams to contrast the views. Review all data to capture essential differences and develop arguments. Judge the merits of each, pose questions, and reach an independent verdict on the strongest.

Analysis Phase: Conduct the exercise on an important issue to:

- Identify each competing hypothesis or point of view.
- Task a team to develop the best argument for each.
- Review pertinent information to bolster respective hypotheses.
- Standardize each presentation with an explicit argument, logic behind the argument, key assumptions, and key evidence.

Debate Phase: Present and rebut each argument in parallel fashion:

- Charter an independent jury of peers to question the teams.
- Schedule a formal debate or an informal brainstorming.
- Present, critique, rebut, and defend each case.
- Compile the jury's findings, request for further research, and/or recommendation for possible next steps.

Think-Write-Share

This ACT/GTM tool was adopted by the University of Foreign Military and Cultural Studies.[46]Think-Write-Share (T-W-S) is designed to provide users a structured approach to critically think through any question and serves as a starting point for hearing all voices in any discussion. This tool is very effective for enabling critical and creative thinking.

When to Use

Groups can employ T-W-S before the employment of any ACT and GTM tools. This sequence provides any participant in a group discussion or meeting the time needed to independently develop and refine original ideas before presenting them for consideration by the group.

Value Added

Think-Write-Share is designed to mitigate fast thinking, grandstanding, thinking aloud, spring-butts/spot-light rangers, and the highest paid person's opinion (HIPPO). It supports reflection, increases reasoning, increases understanding, and creates new ideas. The tool allows time to create space between a question being asked, and the time an individual needs to think about them. Too often when collaborating with others, groups are challenged with dynamics that stifle the emergence of valuable ideas. Introverts usually develop better thoughts on their own, while extroverts synthesize the dialogue from others to create their improved ideas. T-W-S is the tool often used to foster critical and creative thinking for all group activities, no matter the size.

The Method

Facilitator: Identify a priming question for the participants to answer. Consider using 6 Words to get the participants to

think at the core of their ideas.

Self: THINK about the question. This engages individual thinking. WRITE down as many ideas as you can. Do not self-censor. Continue to write and revise to develop and refine your ideas. Transferring thoughts by writing them down forces the mind to engage in slow thinking and reflection of your thoughts.

Group: Identify a GTM tool for the group to share each other's ideas in a methodical manner. SHARE your ideas in a pair or within a small group.

Example

1. Before utilizing the tool, the facilitator is responsible for developing a priming question for the group to answer. The question needs to target key concepts of what the group is focusing on – demonstrating understanding, solving problems, building knowledge, examining information, or making recommendations.
2. STATE: Clearly state the question - "What are the key issues or challenges within your organization?" Provide a specific amount of time to the group - *"**THINK** for 5 minutes…"*
3. ELABORATE: "Keep an open mind and withhold judgment. **WRITE** down your ideas."
4. SELECT: Facilitator should select the appropriate GTM tool (*Circle of Voices, 1-2-4-Whole Group, Circular Response*, etc.) that supports the outcome they are trying to create. *"We will **SHARE** our ideas with a Circle of Voices."*
5. VARIATION: Facilitator can interchange Think-Write-Share with ***Think-Draw-Share***. If you are trying to get participants to visualize the desired end state or complex ideas, drawing a diagram, model, or illustration can clarify ideas the participants are not able to express in words.

TRIZ

This ACT/GTM tool was adopted by the University of Foreign Military and Cultural Studies from *G. Altshuller and D. Mann.*[47] TRIZ is a Russian acronym for Theoria Resheneyva Isobretatelskehuh Zadach, which means, "Theory of Inventive Problem-Solving." First developed by Russian naval officer Genrich Altshuller, he analyzed hundreds of thousands of patents and concluded that almost all of the significant inventions were based upon one or more of some 40 fundamental principles.

TRIZ can be an effective tool for inventive problem solving, but it is also one of the more challenging Red Teaming tools. Becoming proficient with it will likely require some study and practice.

When to Use

Red Teams should use TRIZ when their organization is trying to find a solution to a problem that appears to have contradictory characteristics or parameters, meaning efforts to improve one will have negative effects on the other.

For example, combat capabilities developers designing future combat vehicles might care about the vehicles' survivability, mobility, and lethality, among other characteristics. In order to enhance the vehicle's survivability, they might opt to add more armor. However, the additional armor would increase the vehicle's weight and therefore reduce its mobility. This situation, as depicted in the Figure 7.19 below, is called a Problem of Contradiction, and would be the type of problem for which one might use the TRIZ method.

Value Added

The TRIZ method can help problem-solvers better

understand the system with which they are dealing by facilitating a more precise identification of the parameters and variables of a given problem. This additional precision helps avoid the unintended consequences that sometimes occur when complex problems are erroneously viewed as simple or linear. TRIZ can also help problem solvers integrate their system 1 thinking with their system 2 thinking in order to develop a creative solution that would have otherwise escaped them.

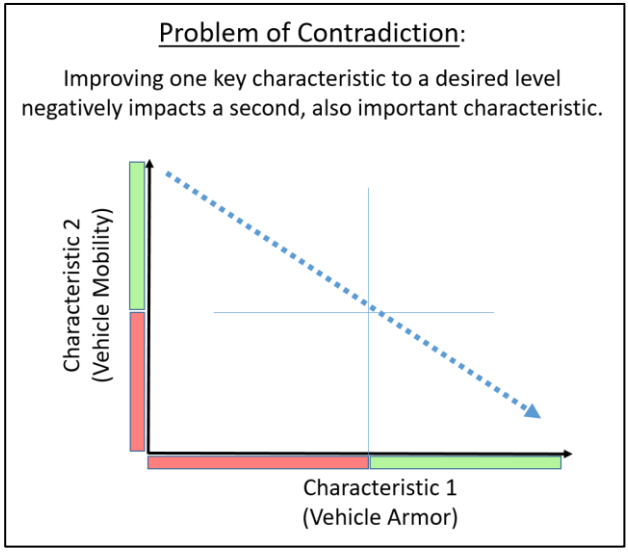


Figure 7. 19 Problem of Contradiction

The Method

Step 1 – Identify the Specific Problem and the Contradictions.

It is often useful to write the problem out in a succinct narrative.

In the **example** above, the initial design problem might be:

> *How can I increase the armor protection of the tank without increasing its weight?*

Step 2 – Identify the Conceptual Problem (Contradiction). Turn the specific problem into a conceptual

problem. In this step, you should make the problem generic and identify the generic characteristics that are in conflict, using the TRIZ matrix that can be accessed at:

www.innovation-triz.com/triz40/triz_matrix.xls

In this **example**, two of the characteristics that are in conflict are:

Strength *(In this case, the ability of the armor to prevent penetration by enemy projectile), and*

Weight of a mobile object *(In this case, the tank).*

Step 3 – Identify the Appropriate Inventive Principles. Returning to the TRIZ contradiction matrix and looking at the intersection on the matrix of ***Strength*** as the "Characteristic to be improved" (which is characteristic #14 down the left side) and ***Weight of a mobile object*** as the "Characteristic that is getting worse" (characteristic #1 across the top of the matrix), yields four potential **Inventive Principles** to be explored:

 # 1 Segmentation – Divide an object into independent parts

 # 8 Counterweight – Compensate for the weight of an object by combining it with another object that provides a lifting force

 # 40 Composite materials – Replace homogeneous materials with composite ones, and

 # 15 Dynamicity – a. Characteristics of an object, or outside environment must be changed to provide optimal performance at each stage of an operation, b. If an object is immobile, make it mobile. Make it interchangeable, c. Divide an object into elements capable of changing their position relative to each other.

Step 4 – Identify the Specific Solution. Explore the **Inventive Principles** and find a way to apply them to solve your specific problem. In the case of the tank armor, the designers utilized Inventive Principle #40 and developed a composite armor that is lighter and stronger than homogenous steel.

Troika Consulting (Ad Agency)

This ACT/GTM tool is adopted by the University of Foreign Military and Cultural Studies from *The Surprising Power of Liberating Structures*.[48] This technique provides participants immediate feedback from two other group members. Through peer-to-peer coaching, individuals provide insight, options, and potential solutions to problems shared with each other in this small group exercise.

When to Use

To provide options when a problem or obstacle blocks progress.

Value Added

The process typically works best when group participants have diverse skills, knowledge, and experiences. A ten-minute time limit for each round of consulting (time spent on each individual issue) is preferable.

The Method

Step 1 (1-2 Minutes): Each person should individually reflect on a challenge he/she faces, or a situation for which advice is desired. Participants form into groups of 3-4, sitting knee-to-knee with no obstacles separating them.

Step 2 (3-5 Minutes): The session begins with one person acting as the client sharing an issue, while others act as consultants, listening carefully, considering the issue. When the client has finished speaking, the consultants ask any questions required to clarify their understanding of the problem.

Step 3 (5-7 Minutes): The client then separates from the group, backing up slightly or turning around, and listens (without comment) to the consultants' discussion. The

consultants discuss the issue as if it were their own, generating possible courses of action, solutions, or advice. The client then provides feedback on the potential value of the suggestions/insights generated in the exchange. The group resets the clock, and the next participant will take their turn as the client, until all participants have had a turn.

Caution

To fully benefit from the process, clients should listen and absorb the consultants' suggestions without judgment. Unlike a typical exchange, in which we too often try to explain to others why their suggestions will not work, attempt to solicit unbiased input and actually consider it.

What If Analysis

This ACT/GTM tool was adopted by the University of Foreign Military and Cultural Studies from *Heuer and Pherson, Structured Analytic Techniques* .[49] Expectations of what will occur often lead to disregard of other less intuitive and less-likely outcomes. For example, the expectation that one side in a conflict will have the advantage of superior firepower can prevent people from asking, "What if that is not the case?" This tool does not dwell on the consequences of the event as much as it moves directly to showing what to watch for. An individual or team can use this tool as a means to uncover/explain how an event of substantial impact (negative or positive) might unfold.

When to Use

To prepare for a critical judgment about an event, particularly when that judgment rests on limited information.

Value Added

This tool provides the policymaker with a thoughtful caution to accepting conventional wisdom without considering the costs and risks of being wrong. It presents an opportunity to hedge bets, even if an event remains unlikely. It removes the argument of probability and shifts focus to how it occurs, suspending the debate over likelihood to study of enablers and indicators. It unveils causes of the event and signposts for its imminence.

The Method

Clearly state the conventional analytic line, decide which outcomes are too important to dismiss, and assume the event has occurred, e.g., death of a leader, natural disaster, or some event that starts a chain of others.

1. Single out triggering events that permit the scenario to continue to unfold, making the "what if" more plausible. Develop a chain of argumentation based as much on logic as evidence to explain how this outcome could have come about.
2. Specify what must occur at each stage of the scenario. In concrete ways, "think backward" from the event.
3. Identify plausible pathways [scenarios] to the unlikely event. Often more than one appears possible. For each scenario:
    a. Generate a list of "observable signposts" that indicate the event is beginning.
    b. Consider the scope of the positive and negative consequences and their relative impacts.
4. Monitor the indicators developed on a periodic basis.

See Also

Premortem Analysis

Who Am I?

This ACT/GTM tool was developed by the University of Foreign Military and Cultural Studies.[50] "Who Am I?" (WAI) is a story-telling exercise in which individual participants share watershed moments with the group. It is not an oral biography or resume, but rather an individual's choice of life-changing events that he/she perceives changed the way they think – both negative and positive – to share. The experience requires introspection and reflection for maximum benefit and attentive listening from other participants. The goal is to enhance the individual's self-awareness, while at the same time creating cohesion and relationship bonding within the group.

When to Use

The ideal time to use WAI is when a group is initially forming or reforming. However, WAI may also be effective when groups reorganize, take on new missions, or deploy.

Value Added

WAI develops relationships between members of a group that might otherwise take months or years to develop. In many cases, groups do not have that much time, yet high levels of trust are required for their work environment. Sharing watershed moments through WAI not only assists with group cohesion, but also helps participants improve self-awareness and reflection skills.

The Method

There are four elements to the WAI activity.

First: Individuals reflect on their own watershed moments. An effective method to accomplish this is to journal about key life events and their meaning, thinking about which events to share with the group. For some individuals, a drawing may be

helpful to add to the journal to express reflective thoughts and feelings. However, the watershed moments are only shared orally; there are no slide or other required presentations.

Second: The participants share their stories one at a time for 15-20 minutes each.

Third: This element is simple but should not be taken for granted: listening. Other participants listen, without adding comments, suggesting solutions, or reacting at all.

Fourth: The participants should journal on the same day they shared their story to reflect on their WAI experience.

Optional Additions

While not used during the exercise, visuals may help participants during the reflection portion of the exercise. The Peak & Valley Drawing (see Figure 7.20), from *David Sibbet, Visual Meetings – How Graphics, Sticky Notes & Idea Mapping Can Transform Group Productivity*, is one way to sketch watershed moments visually in a journal.

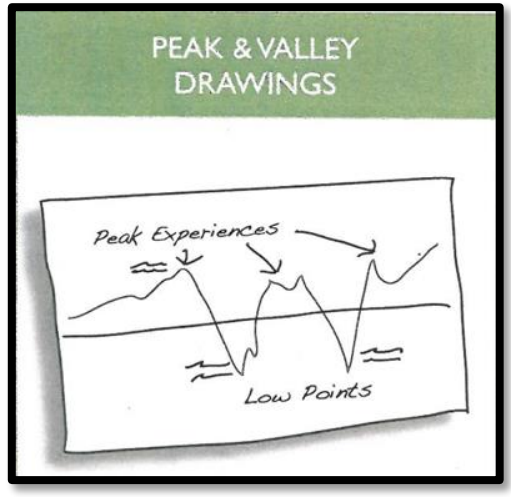


Figure 7. 20 Peak and Valley Drawings

Yes, And…

This ACT/GTM tool is adopted by the University of Foreign Military and Cultural Studies from *B. Kulhan, Getting to Yes And: The Art of Business Improv.*[51] This positive technique is useful for building upon the ideas of others to help them improve their concept. When someone replies to an idea with "Yes, but…" it implies the receiver did not respect the idea from the sender. It also sends signals that the receiver is shutting down the sender's idea, potentially causing the sender to have a heightened emotional state. Using this tool, every participant shares an idea, and in turn, every participant embellishes that one idea. Each originator is responsible for submitting the final version of their enhanced idea to the collective knowledge at the end of the exercise.

When to Use

When seeking constructive ways to build on ideas. This technique works best in groups of 3-4, but not larger than 6.

Value Added

This technique encourages the group to listen more fully to each other by building on previous statements. It propagates a collection of strong ideas.

The Method

1. Begin with everyone thinking individually about the issue at hand.
    a. Write down your thoughts.
    b. Form small groups sitting knee to knee in a circle or square.
2. Person 1 (the first person) shares their idea.
    a. Person 2 (clockwise or counter) begins supports and embellishes upon Person 1's idea by starting,

"Yes, and…".

b. Continue around the small group until everyone has donated an embellishment to Person 1's idea.

3. Person 2 shares their idea.
   a. The small group repeats the same process, "Yes, and…".
4. Continue until the last person's idea is fully embellished.
5. Submit the final version of each idea to the collective knowledge.

End Notes

[1] Henri Lipmanowicz and Keith McCandless, *The Surprising Power of Liberating Structures* (Seattle, WA: Liberating Structures Press, 2013).

[2] University of Foreign Military and Cultural Studies, *Internal Documents* (Fort Leavenworth: UFMCS, 2018).

[3] University of Foreign Military and Cultural Studies, *Internal Documents* (Fort Leavenworth: UFMCS, 2018).

[4] Taiichi Ohno, "Ask 'Why' Five Times About Every Matter," (2006), http://www.toyota-global.com/company/toyota_traditions/quality/mar_apr_2006.html.

[5] Henri Lipmanowicz and Keith McCandless, *The Surprising Power of Liberating Structures* (Seattle, WA: Liberating Structures Press, 2013).

[6] Ken Booth, *Strategy and Ethnocentrism* (New York: Routledge, 2015).

[7] Larry Smith, "Six Word Memoir," (2006), https://www.sixwordmemoirs.com/ about/#story-of-six-words.

[8] Peter Schwartz, *The Art of the Long View: Planning for the Future in an Uncertain World* (New York, NY: Doubleday, 1996).

[9] University of Foreign Military and Cultural Studies, *Internal Documents* (Fort Leavenworth: UFMCS, 2018).

[10] Richards J. Heurer, *Psychology of Intelligence Analysis* (Central Intelligence Agency, 1999), 95-110.

[11] University of Foreign Military and Cultural Studies, *GroupJazz References - Internal Documents* (Fort Leavenworth: UFMCS, 2018).

[12] Henri Lipmanowicz and Keith McCandless, *The Surprising Power of Liberating Structures* (Seattle, WA: Liberating Structures Press, 2013).

[13] M. Neil Browne and Stuart M. Keeley, Asking the Right Questions – A guide to Critical Thinking (Upper Saddle River, New Jersey: Pearson Education, 2007).

[14] University of Foreign Military and Cultural Studies, *Internal Documents* (Fort Leavenworth: UFMCS, 2018).

[15] R. Fisher and W. Ury, *Getting to Yes: Negotiating Agreement Without Giving In, 2d Edition* (NY: Penguin Books, 1991).

[16] Alex Osborn, *How to Think Up* (McGraw Hill, 1942).

[17] Stephen Brookfield, *The Skillful Teacher: On Technique, Trust, and Responsiveness in the Classroom* (CA: Jossey-Boss, 2015).

[18] Stephen Brookfield, *The Skillful Teacher: On Technique, Trust, and Responsiveness in the Classroom* (CA: Jossey-Boss, 2015).

[19] University of Foreign Military and Cultural Studies, *Internal Documents* (Fort Leavenworth: UFMCS, 2018).

[20] University of Foreign Military and Cultural Studies, *Internal Documents* (Fort Leavenworth: UFMCS, 2018).

[21] University of Foreign Military and Cultural Studies, *Internal Documents* (Fort Leavenworth: UFMCS, 2018).

[22] Richards J. Heuer Jr and Randolph H. Pherson, *Structured Analytic Techniques for Intelligence* Analysis (CA: CQ Press, 2015).

[23] Morgan D. Jones, *The Thinkers Toolkit: 14 powerful techniques for problem solving* (NY: Three Rivers Press, 1998), 80-86.; J. Edward Russo and Paul J. H. Schoemaker, *Winning Decisions: Getting It Right the First time* (NY: Doubleday, 2001) 162.

[24] University of Foreign Military and Cultural Studies, *Internal Documents* (Fort Leavenworth: UFMCS, 2018).

[25] Henri Lipmanowicz and Keith McCandless, *The Surprising Power of Liberating Structures* (Seattle, WA: Liberating Structures Press, 2013).

[26] J. Edward Russo and Paul J. H. Schoemaker, *Winning Decisions: Getting It Right the First time* (NY: Doubleday, 2001).

[27] University of Foreign Military and Cultural Studies, *Internal Documents* (Fort Leavenworth: UFMCS, 2018).

[28] Richards J. Heuer Jr and Randolph H. Pherson, *Structured Analytic Techniques for Intelligence* Analysis (CA: CQ Press, 2015).

[29] Nassim Nicholas Taleb, *The Black Swan: The Impact of the Highly Improbable* (NY: Random House, 2007).

[30] Richards J. Heuer Jr and Randolph H. Pherson, *Structured Analytic Techniques for Intelligence* Analysis (CA: CQ Press, 2015); Richard E. Neustadt and Ernest R. May, *Thinking in Time: the Uses of History for Decision Makers* (Riverside: Free Press, 2011); and J. Edward Russo and Paul J. H. Schoemaker, *Winning Decisions: Getting It Right the First time* (NY: Doubleday, 2001).

[31] Richards J. Heuer Jr and Randolph H. Pherson, *Structured Analytic Techniques for Intelligence* Analysis (CA: CQ Press, 2015).

[32] Tony Buzan, *Mind Map Mastery - The Complete Guide to Learning and Using the Most Powerful Thinking Tool in the Universe* (London: Watkins Media Limited, 2018).

[33] Henri Lipmanowicz and Keith McCandless, *The Surprising Power of*

Liberating Structures (Seattle, WA: Liberating Structures Press, 2013).

[34] Geert H. Hofstede and Gert Jan Hofstede, Cultures and Organizations: Software of the Mind: Intercultural Cooperation and Its Importance for Survival, Rev. and Expanded 3rd ed., (New York: McGraw-Hill, 2010), 6.

[35] Richards J. Heuer Jr and Randolph H. Pherson, *Structured Analytic Techniques for Intelligence* Analysis (CA: CQ Press, 2015).

[36] Gary Klein PhD, *Sources of Power: How People Make Decisions* (MIT Press, 1999).

[37] Morgan D. Jones, *The Thinkers Toolkit: 14 powerful techniques for problem solving* (NY: Three Rivers Press, 1998), 80-86.

[38] Peter Senge, *The Fifth Discipline: The Art & Practice of the Learning Organization* (NY: Doubleday, 2006).

[39] John M. Bryson, "What to Do When Stakeholders Matter: A Guide to Stakeholder Identification and Analysis Techniques." A paper presented at the National Public Management Research Conference, 9 – 11 October 2003, Georgetown University Public Policy Institute, Washington, DC ; L. Bourne and D. Walker, "Visualizing and Mapping Stakeholder Influence." Management Decision Vol 43, No. 5 (2005): 649-660.

[40] Yukl, *Leadership in Organizations* (Sydney: Prentice–Hall, 1998).

[41] Gerald M. Nosich, *Learning to Think Things Through – A Guide to Critical Thinking Across the Curriculum* (New York: Pretice-Hall, 2001), 170.

[42] University of Foreign Military and Cultural Studies, *Internal Documents* (Fort Leavenworth: UFMCS, 2018).

[43] University of Foreign Military and Cultural Studies, *Internal Documents* (Fort Leavenworth: UFMCS, 2018).

[44] University of Foreign Military and Cultural Studies, *Internal Documents* (Fort Leavenworth: UFMCS, 2018).

[45] Richards J. Heuer Jr and Randolph H. Pherson, *Structured Analytic Techniques for Intelligence* Analysis (CA: CQ Press, 2015).

[46] University of Foreign Military and Cultural Studies, *Internal Documents* (Fort Leavenworth: UFMCS, 2018).

[47] Genrich Altshuller, "40 Principles: TRIZ Keys to Technical Innovation." Translated by Lev Shulyak. (2001) Worcester, MA Technical Innovation Center; and Darell Mann, "An Introduction to TRIZ: The

Theory of Inventive Problem Solving." Creativity and Innovation Management Vol 10, no. 2 (2001): 123 -125.

[48] Henri Lipmanowicz and Keith McCandless, *The Surprising Power of Liberating Structures* (Seattle, WA: Liberating Structures Press, 2013).

[49] Richards J. Heuer Jr and Randolph H. Pherson, *Structured Analytic Techniques for Intelligence* Analysis (CA: CQ Press, 2015).

[50] University of Foreign Military and Cultural Studies, *Internal Documents* (Fort Leavenworth: UFMCS, 2018).

[51] Kelly Leonard and Tom Yorton, *Yes, And* (NY: Harper Collins, 2015).

Bibliography

Altshuller, Genrich. 40 Principles: TRIZ Keys to Technical Innovation. Worcester: Technical Innovation Center, 2001.

Amabile, Teresa M. Creativity in Context. Boulder: Westview Press, 1996.

Berens, Linda V. Understanding Yourself & Others: An Introduction to the 4 Temperaments, 4th ed. Huntington Beach: Radiance House, 2010.

Booth, Ken. Strategy and Ethnocentrism. New York: Routledge, 2015.

Bourne, Lynda and Derek Walker. "Visualizing and Mapping Stakeholder Influence." Management Decision 43, No. 5 (2005): 649-660.

Brookfield, Stephen, D. The Skillful Teacher: On Technique, Trust, and Responsiveness. San Francisco: Wiley, 2015.

Browne, M. Neil and Keeley, Stuart M., Asking the Right Questions – A guide to Critical Thinking (Upper Saddle River, New Jersey: Pearson Education, 2007).

Bryson, John, M. 2003. "What to Do When Stakeholders Matter: A Guide to Stakeholder Identification and Analysis Techniques." Paper presented at the National Public Management Research Conference, Washington, DC, 9-11 October 2003.

Buzan, Tony, Mind Map Mastery - The Complete Guide to Learning and Using the Most Powerful Thinking Tool in the Universe (London: Watkins Media Limited, 2018).

Cohen, Ronald. "The Political System," in A Handbook of Method in Cultural Anthropology, eds. Raoul Naroll and Ronald Cohen, 484-499. New York & London: Columbia Press, 1970.

Connerley, Mary, L. and Paul Pedersen. Leadership in a Diverse and Multicultural Environment: Developing Awareness, Knowledge, and Skills. Thousand Oaks: Sage Publications, 2005.

Cox, Taylor. Cultural Diversity in Organizations: Theory, Research, and Practice. San Francisco: Berrett-Koehler, 1993.

Dacey, John S. Fundamentals of Creative Thinking. Lanham: Lexington Books, 1988.

Demarest, Geoffrey. Winning Irregular War. Leavenworth: Foreign Military Studies Office, 2014.

Fisher, Roger and William Ury. Getting to Yes: Negotiating Agreement Without Giving In, 2nd ed. New York: Penguin Books, 1991.

Geertz, Clifford. The Interpretation of Cultures. New York: Basic Books, 1973.

Goodenough, Ward, Hunt. Culture, Language, and Society, 2d ed. Menlo Park: Benjamin/Cummings Pub, 1981.

Haight, Gretchen. "Managing Diversity." Across the Board 27, no. 3 (1990): 22.

Hamlin, Kaliya "Unconference Methods: Fish Bowl Dialogue", http://unconference.net/unconference-methods-fish-bowl-dialogue/

Harris, Marvin. Cows, Pigs, Wars & Witches: The Riddles of Culture. New York: Random House, 1989.

Hofstede, Geert, H. and Gert Jan Hofstede. Cultures and Organizations: Software of the Mind: Intercultural Cooperation and Its Importance for Survival. 3rd ed. New York: McGraw-Hill, 2010.

Holyoak, Keith J. and Paul Thagard. Mental Leaps: Analogy in Creative Thought. Cambridge: MIT Press, 1995.

Heuer, Richard, J. and Randolph Pherson. Structured Analytical Techniques for Intelligence Analysis. Washington, DC: CQ Press, 2011.

Heurer, Richard, J. Psychology of Intelligence Analysis. N.p.: Central Intelligence Agency 1999.

Jones, Morgan D. The Thinkers Toolkit: 14 Powerful Techniques for Problem Solving. New York: Three Rivers Press, 1998.

Keirsey, David and Marilyn Bates. Please Understand Me: Character & Temperament Types, 3rd ed. Del Mar: Prometheus Nemesis, 1984.

Klein, Gary. Sources of Power: How People Make Decisions Cambridge: MIT Press, 1999.

Kounios, John and Mark Beeman. The Eureka Factor: Aha Moments, Creative Insights, and the Brain. NY: Random House, 2015.

Kluckhohn, Florence Rockwood and Fred L. Strodtbeck. Variations in Value Orientations. Evanston: Row, Peterson, 1961.

Kulhan, Bob. Getting to Yes And: The Art of Business Improv Stanford: Stanford University Press, 2017.

Leonard, Kelly and Yorton, Tom, Yes, And (NY: Harper Collins, 2015).

Levi-Strauss, Claude. The Elementary Structures of Kinship. Boston: Beacon Press, 1967.

Liberating Structures. "Including and Unleashing Everyone, 15% Solutions," http://www.liberatingstructures.com/7-15-solutions/.

Lipmanowicz, Henri and Keith McCandless. The Surprising Power of Liberating Structures. N.p.: Liberating Structures Press, 2013.

Lubart, Todd I., "Models of the Creative Process: Past, Present and Future." Creativity Research Journal 13, Nos. 3&4 (2001): 295-308.

Mann, Darell "An Introduction to TRIZ: The Theory of Inventive Problem Solving." Creativity and Innovation Management 10, no. 2 (2001): 123 - 125.

Neustadt, Richard E. and Ernest R. May. Thinking in Time: the Uses of History for Decision Makers. Riverside: Free Press, 2011.

Nosich, Gerald M., Learning to Think Things Through - A Guide to Critical Thinking Across the Curriculum (New York: Pretice-Hall, 2001).

Ohno, Taiichi. "Ask 'Why' Five Times About Every Matter," http://www.toyota-global.com/company/ toyota_traditions/quality/mar_apr_2006.html.

Olton, R.M. "Experimental Studies of Incubation: Searching for the Elusive." Journal of Creative Behavior Vol. 13 (1979): 9-22.

Osborn, Alex, How to Think Up (McGraw Hill, 1942).

Runco, M. A. & Ivonne, C., "Problem Finding, Problem Solving, and Creativity." In Problem Finding, Problem Solving, and Creativity, edited by Mark A. Runco, 40-77. Norwood: Greenwood Publishing Company, 1994).

Russo, J. Edward and Paul J. H. Schoemaker. Winning Decisions: Getting it Right the First Time. New York: Doubleday, 2002.

Salmoni, Barak A. and Paula Eber. Operational Culture for the Warfighter: Principles and Applications. Washington, DC: Marine Corps University, 2011.

Schwartz, Peter, The Art of the Long View: Planning for the Future in an Uncertain World (New York, NY: Doubleday, 1996).

Senge, Peter M. The Fifth Discipline: The Art & Practice of the Learning Organization. New York: Random House, 2006.

Sifonis, Cynthia, Adrian Chernoff, and Kevin Kolpasky. "Analogy as a Tool for Communicating about Innovation." International Journal of Innovation and Technology Management 3, no. 1 (2006): 1-19.

Smith, Larry, Six Word Memoir, (2006), https://www.sixwordmemoirs.com/ about/#story-of-six-words.

Taleb, Nassim Nicholas. The Black Swan: The Impact of the Highly Improbable. New York: Random House, 2007.

University of Foreign Military and Cultural Studies, Internal Documents, Fort Leavenworth, KS: UFMCS, 2018)

Wallas, Graham. “Stages in the Creative Process,” in The Creativity Question, edited by A. Rothenberg and C.R. Hausman. Durham, 69-73. NC: Duke University Press, 1976.

Wallas, Graham. The Art of Thought. NY: Harcourt, 1926.

Yukl, Gary. Leadership in Organizations. Sydney: Prentice–Hall, 1988.

Zinni, Anthony. Non-Traditional Military Missions in Capital "W" War: A Case for Strategic Principles of War. Quantico: Marine Corps University, 1998.

CJCSI 3126.01A. Language, Regional Expertise, and Culture (LREC) Capability Identification, Planning and Sourcing, H-1.

JP 2-01.3, Joint Intelligence Preparation of the Operational Environment, (21 May 2014).

Red Teaming is a flexible cognitive approach to support decision-making, specifically tailored to each organization and each situation, conducted by skilled practitioners, and in some cases conducted under a charter from the organization's leadership. It intertwines Applied Critical Thinking and Groupthink Mitigation tools in a structured manner to expose information and courses of action that may otherwise have been overlooked. Red Teaming also requires practitioners who foster Cultural Empathy and are committed to a continuous journey of Self-Awareness and Reflection.