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AF Life Cycle Management Center



Birthplace, Home and Future of Aerospace

2015 Acquisition Insight Focus Days

Critical Thinking for Effective Program Management



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w e l c o m e



Relax, Listen, Share!



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Critical Thinking...Gotta Do It



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“Our entire national security community needs to stimulate new critical thinking and research on how we maintain our technological dominance” -Mr. Kendall Aug 5 2014



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Critical Thinking...What Is It?



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How would you define critical thinking?





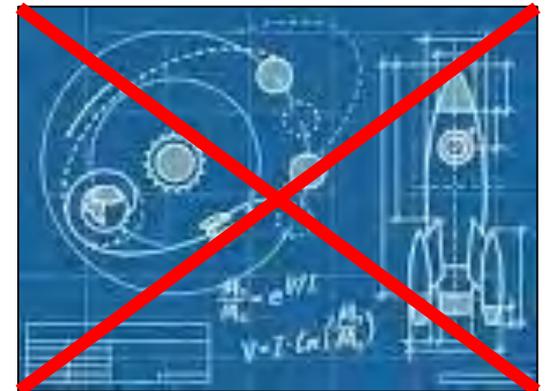
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BLUF



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- **Critical thinking is not rocket science..don't treat it like it is**
- **Much has been published on the subject for every career**
- **Keep doing what you do well**
- **Seek to improve what you do not do well**
- **Critical thinking begins and ends with YOU**
- **Leverage your team abilities – Help them build critical thinking skills**

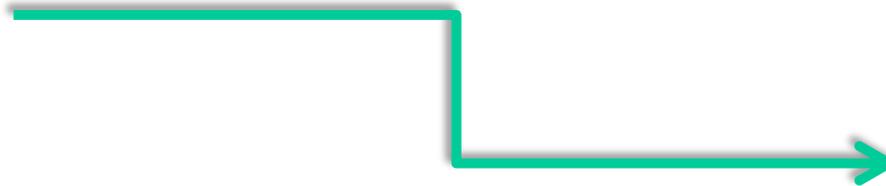




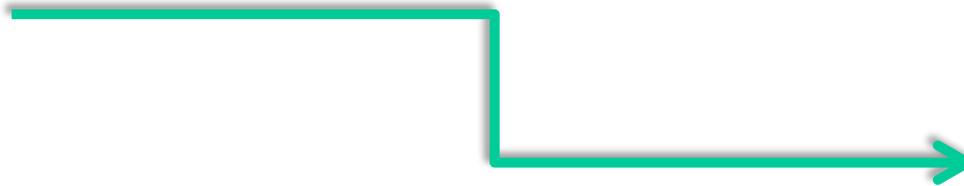
Today's Discussion Topics



- **Critical Thinking...What Is It?**



- **Keys to Critical Thinking**

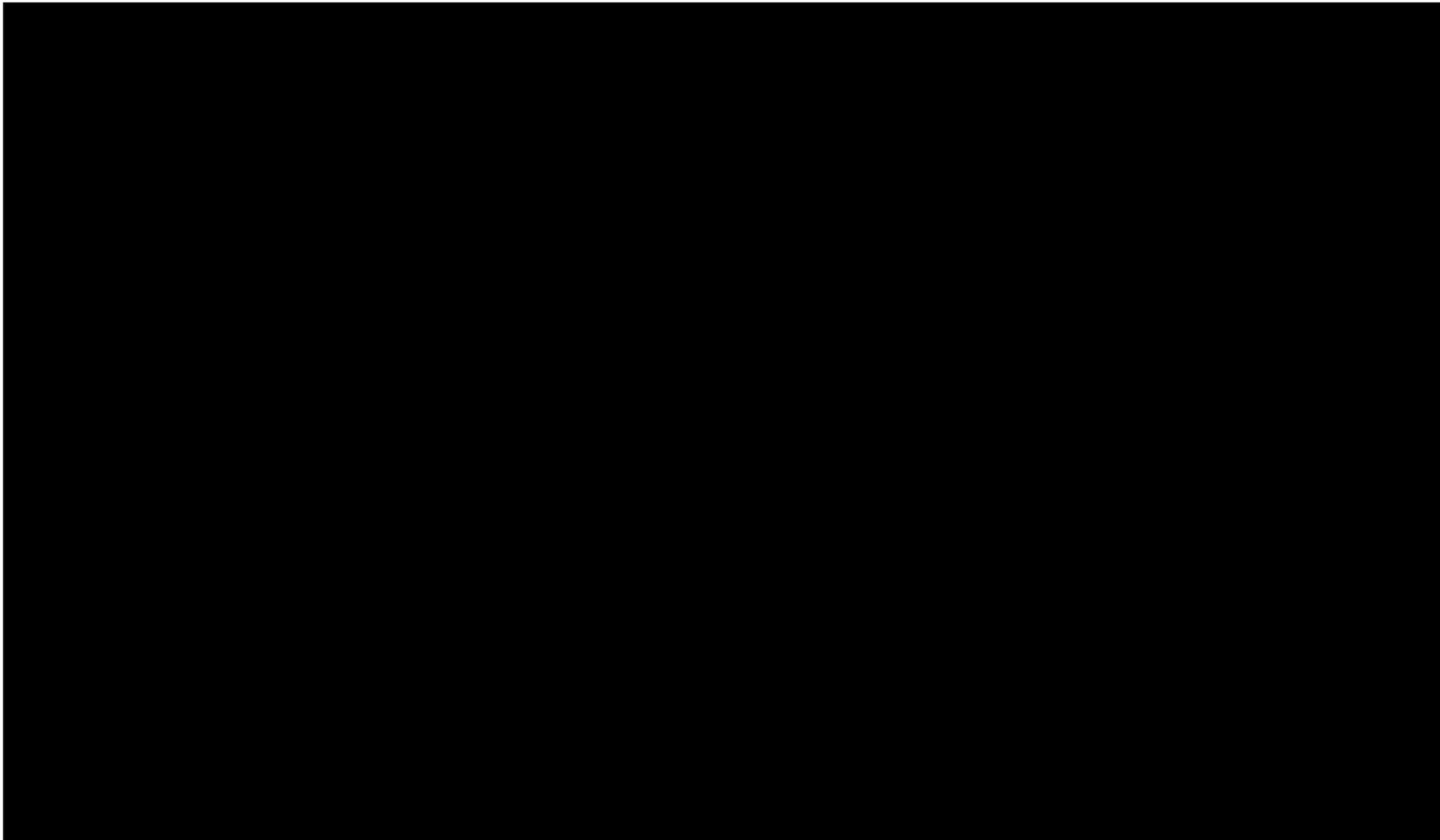




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Bernard The Polar Bear Treadmill Gone Wrong

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Critical Thinking...What Is It?



- **Critical thinking is the intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered from, or generated by, observation, experience, reflection, reasoning, or communication, as a guide to belief and action. In its exemplary form, it is based on universal intellectual values that transcend subject matter divisions: clarity, accuracy, precision, consistency, relevance, sound evidence, good reasons, depth, breadth, and fairness.**
 - **National Council for Excellence in Critical Thinking, 1987**
- **“Critical thinking is the ability to logically assess the quality of one’s thinking and the thinking of others to consistently arrive at greater understanding and achieve wise results.”**
 - **Col W Michael Guillot**
- **Critical thinking is the art of analyzing and evaluating thinking with a view to improving it. It is self-directed, self-disciplined, self-monitored, and self-corrective thinking, Learning to identify and gather relevant information; test data against criteria and standards; weigh risks; and arrive at well-reasoned conclusions.”**
 - **USAF Personnel Professional Development School**
- **A disciplined thinking that is clear, rational, open-minded, and informed by evidence. “The questions are intended to develop your critical thinking.”**
 - **Dictionary.com**



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PM Role In Critical Thinking



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What is the PM role in critical thinking?





PM Role in Critical Thinking



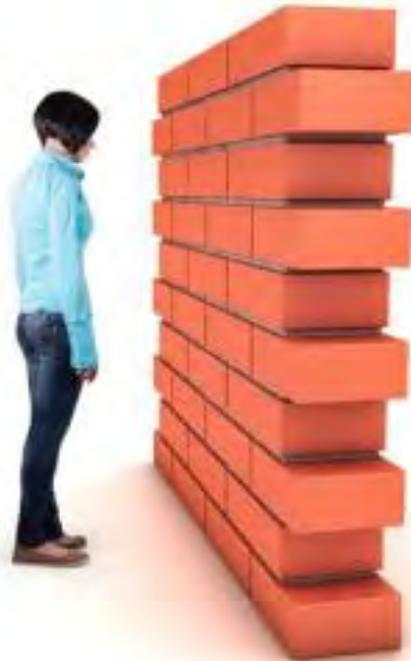
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- Team leader
- Problem solver
- Not subject matter expert
- Orchestrates program to success
- Doesn't wait for issues to resolve themselves
- Relies on strength of team (knowledge, skills, experience) to resolve issues





Barriers To Critical Thinking



What are barriers to critical thinking?

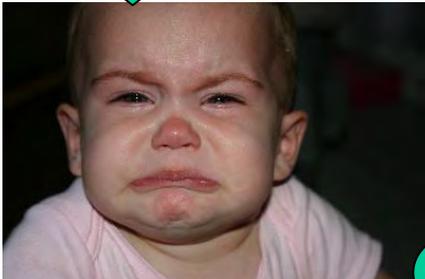


Barriers to Critical Thinking



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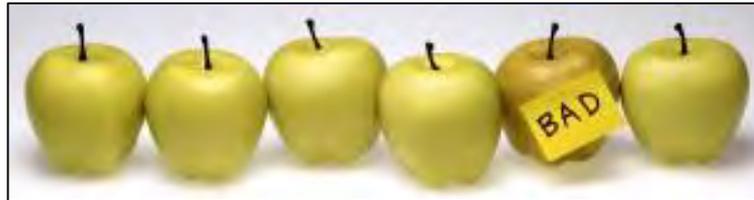
My former boss will tell you I have a bad attitude, but that's because he's a jerk like you.



I put in 1000 hours last week and no one cares!



Do I need an attitude adjustment?



A bad attitude will slowly poison the work environment

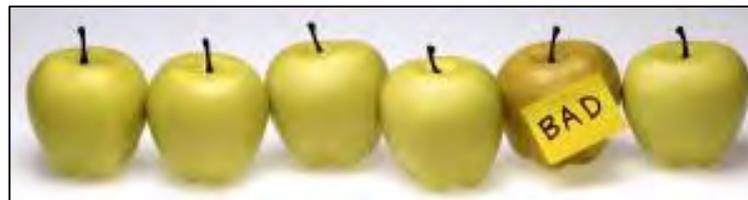
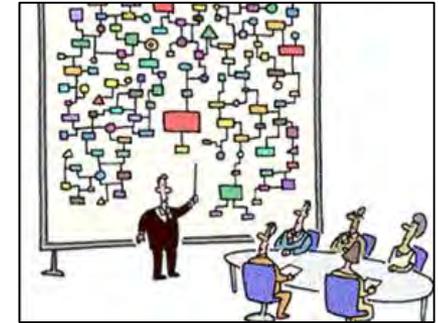


Barriers To Critical Thinking



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- Lack of key resources
- Schedule pressures
- Analysis paralysis
- Guilty by association
- Policy and regulations
- Biases
- Outdated or ineffective processes/procedures
- Group Think
- Hidden agendas
- Bad or indifferent attitudes
- “Us verses Them” Mentality





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Top Leadership Qualities



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- **Positive attitude**
- **Communication**
- **Sense of humor**
- **Confidence**
- **Commitment**
- **Integrity**
- **Ability to inspire**
- **Gives credit to others**
- **Treats people with respect**
- **Praises in public**
- **Counsels in private**



Are you a leader?



Leadership Styles



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- **The pacesetter leader** expects and models excellence and self-direction. If this style were summed up in one phrase, it would be **“Do as I do, now.”** The pacesetter style works best when the team is already motivated and skilled, and the leader needs quick results. Used extensively, however, this style can overwhelm team members and squelch innovation.
- **The authoritative leader** mobilizes the team toward a common vision and focuses on end goals, leaving the means up to each individual. If this style were summed up in one phrase, it would be **“Come with me.”** The authoritative style works best when the team needs a new vision because circumstances have changed, or when explicit guidance is not required. Authoritative leaders inspire an entrepreneurial spirit and vibrant enthusiasm for the mission. It is not the best fit when the leader is working with a team of experts who know more than him or her.
- **The affiliative leader** works to create emotional bonds that bring a feeling of bonding and belonging to the organization. If this style were summed up in one phrase, it would be **“People come first.”** The affiliative style works best in times of stress, when teammates need to heal from a trauma, or when the team needs to rebuild trust. This style should not be used exclusively, because a sole reliance on praise and nurturing can foster mediocre performance and a lack of direction.

Effective leaders know they must continually reinvent themselves



Leadership Styles

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- **The coaching leader** develops people for the future. If this style were summed up in one phrase, it would be **“Try this.”** The coaching style works best when the leader wants to help teammates build lasting personal strengths that make them more successful overall. It is least effective when teammates are defiant and unwilling to change or learn, or if the leader lacks proficiency.
- **The coercive leader** demands immediate compliance. If this style were summed up in one phrase, it would be **“Do what I tell you.”** The coercive style is most effective in times of crisis, such as in a company turnaround or a takeover attempt, or during an actual emergency like a tornado or a fire. This style can also help control a problem teammate when everything else has failed. However, it should be avoided in almost every other case because it can alienate people and stifle flexibility and inventiveness.
- **The democratic leader** builds consensus through participation. If this style were summed up in one phrase, it would be **“What do you think?”** The democratic style is most effective when the leader needs the team to buy into or have ownership of a decision, plan, or goal, or if he or she is uncertain and needs fresh ideas from qualified teammates. It is not the best choice in an emergency situation, when time is of the essence for another reason or when teammates are not informed enough to offer sufficient guidance to the leader.

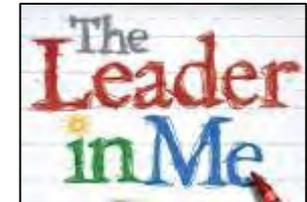


Leadership and Critical Thinking



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- **As a leader, is it important to understand generation traits and diversity?**





Generation Traits



- **Silent Generations (1927-1945)**
 - Children of Great Depression & WWII generation
 - Disciplined, self-sacrificing & cautious
- **Baby Boomers (1946-1964)**
 - “Me Generation, rock & roll, free love
 - Optimistic, driven, team-oriented
- **Generation X (1965-1983)**
 - Late to marry, quick to divorce, single parents, “latch-key kids”
 - Skeptical, unimpressed with authority, self-reliant
- **Generation Y (1984- 2002)**
 - Instant communication, facing higher costs for education
 - Shaped by events, leaders, developments and trends over time
- **Generation Z (2003- Current)**
 - Instant communication



Appreciating Our Diverse Workforce



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- Diversity encompasses race, gender, ethnic group, age, personality, cognitive style, tenure, organizational function, education, background and more
- Co-workers with diverse cultural backgrounds bring unique experiences and perceptions to the table in groups and work teams
- Pooling the diverse knowledge and skills of culturally distinct workers together can benefit your program by strengthening teams' productivity and responsiveness to changing conditions
- Each employee in a diverse workplace possesses unique strengths and weaknesses derived from their culture in addition to their individuality





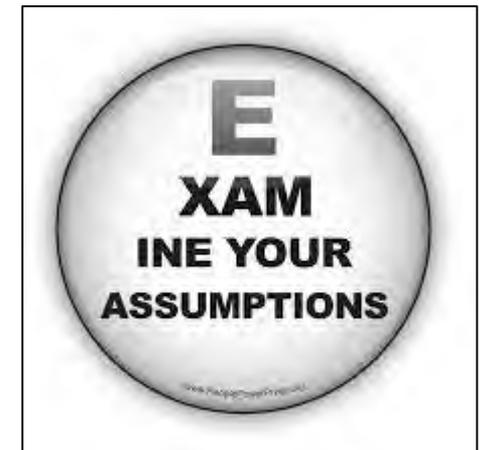
Six Key Critical Thinking Processes



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1. **Clarify goals**- consider and convey exactly what you're trying to accomplish..for the warfighter!!!
2. **Examine assumptions**- have accurate and specific evidence to support your claims
3. **Discern hidden values**- considered all the possible ways
4. **Evaluate evidence**- evaluating evidence with a critical eye
5. **Accomplish actions**- establish specific courses of action/recommendations
6. **Assess conclusions**- did it work, were you successful?



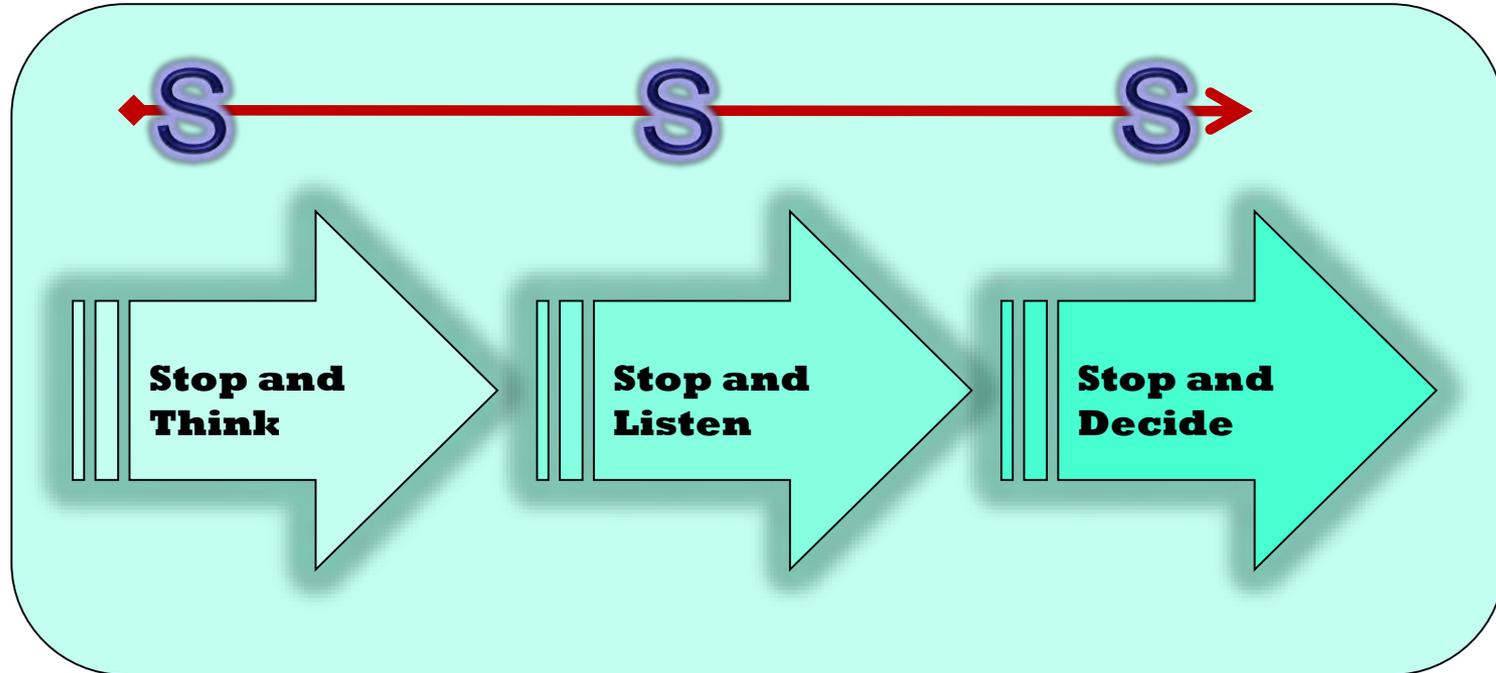
Source: Boundless. "Critical Thinking." *Boundless Communications*.



Keys To Critical Thinking



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Triple S!

Critical Thinking



Keys To Critical Thinking



Stop and Think

- ✓ When under pressure, stop and think
- ✓ Issues are opportunities to learn more
- ✓ An issue well stated is an issue half solved



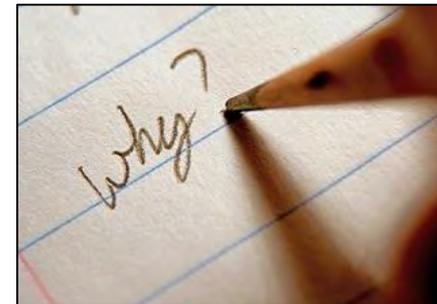


Keys To Critical Thinking



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- **Frame the problem** - What is the program attempting to achieve and what are the key issues that need to be resolved?
- **Brainstorm solutions** through a line of creative questioning
 - Ask the 5 W's (who, what, when, where, why)
- Goal is to **stretch team members thinking** to pursue ideas and ultimately solutions to resolve key issues that they may not have previously considered





Keys to Critical Thinking



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- **Key Actions**

- Set leadership expectations
- Do not tolerate ongoing and unproductive ambiguity
- Withhold judgment until you have adequate information
- Maintain a sense of patience and perspective
- Resist appeals to emotion and rush to an answer
- Do not tolerate negative attitudes
- Think strategically

- **Key Questions**

- What are the key **issues** facing your program? Have you identified the **symptoms** causing your problem?
- How critical is this capability to the warfighter?
- Who are the key stakeholders and what are their expectations– ADM, APB, etc.
- What is your **timeline** for making a decision?





Keys to Critical Thinking



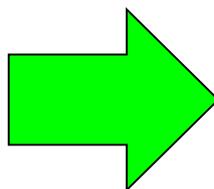
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Issue vs Symptom



Issue

Hampering ability to accomplish a program activity



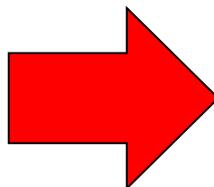
Treating issues gets things done

Treating an issue has an end

Treating an issue creates momentum

Symptom

Result of a problem or issue



Treating symptoms can waste time, money and resources

Treating symptoms can be a momentum killer

Treating symptoms has no end and allows issue to remain unresolved

Focus on identifying key issues and what symptoms are causing them

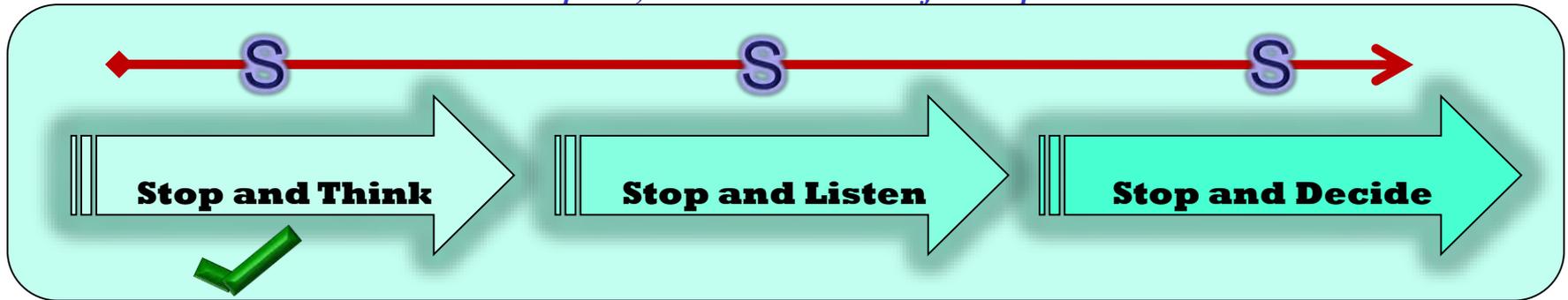


Keys To Critical Thinking



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Keys to Critical Thinking



Stop and Listen

- ✓ **Active listening helps to minimize misunderstandings as people have to confirm that they do really understand what another person has said**
- ✓ **Active listening encourages people to open up and speak more**
- ✓ **Open-ended questions allow team members to discover their own answers and recommendations**
- ✓ **Soft Skills can help you harness the power and potential of your diverse team**





Active Listening

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How would you define active listening?





Active Listening Techniques

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- **Stop talking**
- **Consider other person's point of view and expertise**
- **Look, act and be interested**
- **Watch nonverbals**
- **Don't interrupt**
- **Take notes to key points**
- **Rephrase**
- **Ask "open ended" questions**





Open-Ended Questions



- **Closed-Ended Questions**

- Is your program on track?
- Do you use metrics to track your program progress?
- Do you have enough resources to manage your program?
- Can we request more range time to complete our development testing?
- Are we behind in testing?
- Do we have decision criteria for program success?
- Can we get back on schedule?



- **Open-Ended Questions**

- How do you know your program is on track?
- What metrics do you use to track your program progress?
- What resources are assigned to your program and where, if any, do you need more support?
- What is the process to request more range time to complete development testing?
- Why are we behind in testing?
- What is our decision criteria for program success?
- What actions need to take place to get back on schedule?





Improving Team Critical Thinking



- **Developing soft skills can better enable your team to conduct critical thinking...**

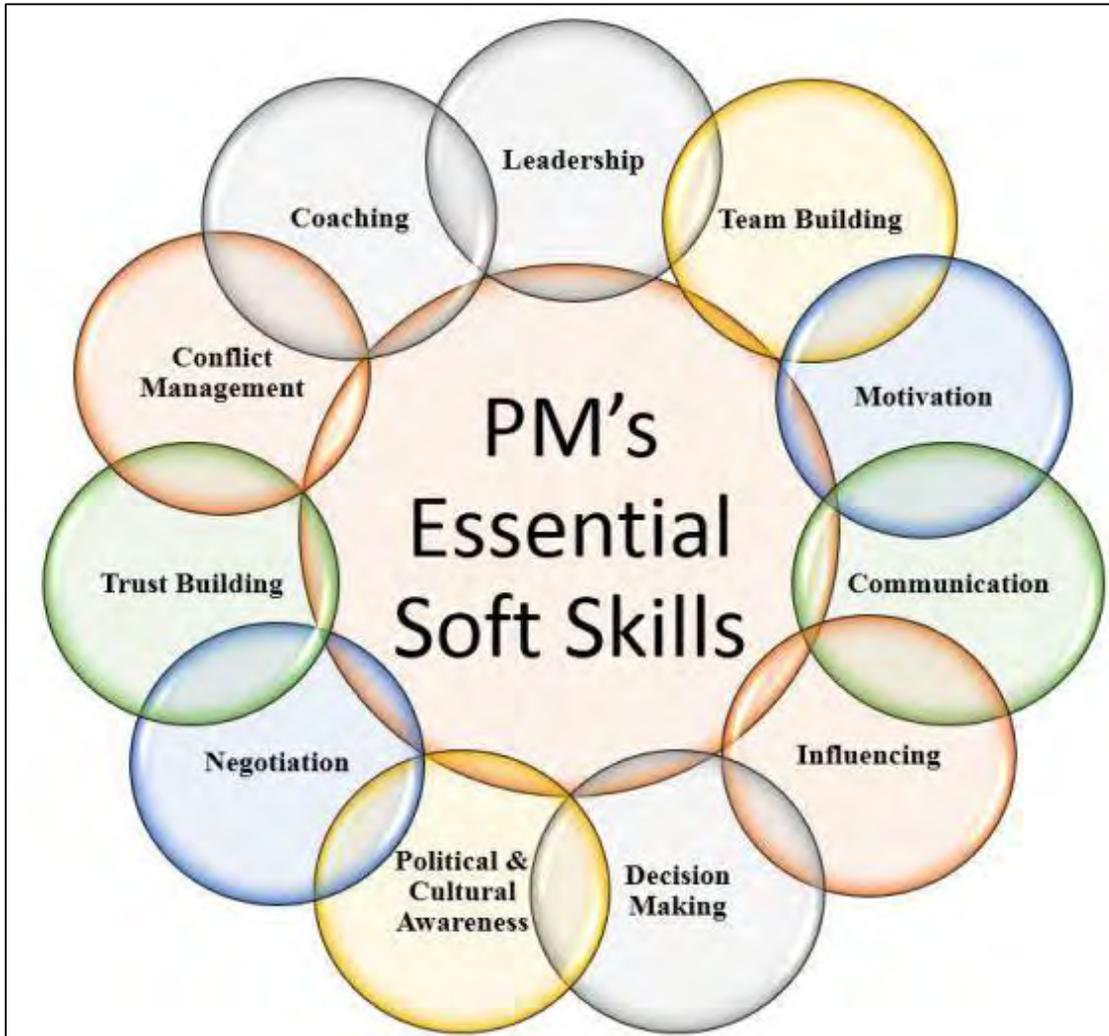
But what are soft skills?





Sharpen Your Soft Skills

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..in order to achieve task/project/program results



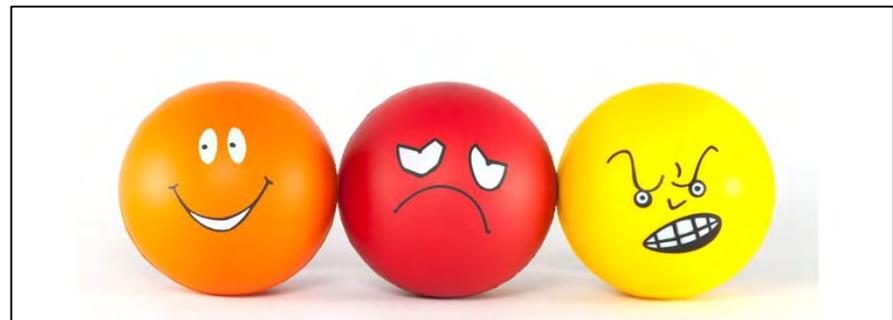
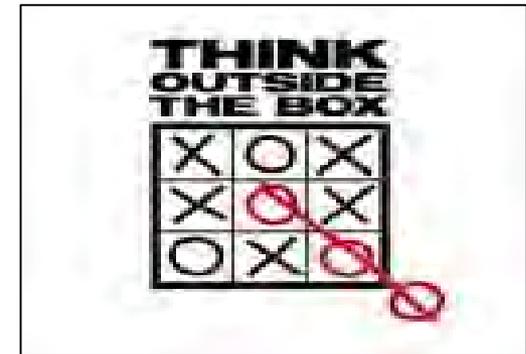
Sharpen Your Soft Skills



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- **Emulate leaders** – Note the soft skills they use
- **Awareness** – Recognize the skills you and team lack
- **Interact** – Get to know your team
- **Be optimistic** – Spread the infectious positive attitude!
- **Lead your team** – Set expectations and tailor approach to team needs -- **See back up slides**
- **Be a team player** – Get your hands dirty!
- **Think out of box** – Encourage your team to be innovative and creative
- **Practice empowerment and delegation** – conveys confidence to your team members





Keys To Critical Thinking



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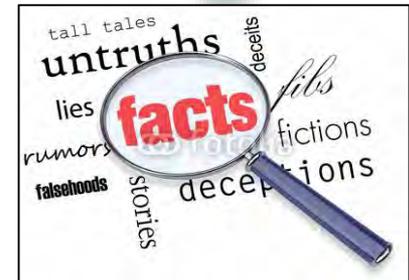
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- **Key Actions**

- **Separate fact from opinion**
- **Question assumptions to reveal information gaps or unfounded logic**
- **Analyze information objectively- require team to show you evidence supporting opinions**
- **Question supporting evidence and understand how emotion influences recommendations**
- **Ask why something “can’t” be accomplished**

- **Key Questions**

- **What information do you have about the issue?**
What are the metrics and projections indicating?
What are the decision criteria?
- **How have other programs resolved similar issues?**
- **What kind of contract do you have to deliver this capability?**





Keys To Critical Thinking



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Triple S!

Critical Thinking



Keys To Critical Thinking



- ✓ Implement the strategy that best satisfies customer requirements and is supported by key evidence
- ✓ After implementing, assess the results of your strategy
- ✓ Gather lessons learned from strategy





Keys To Critical Thinking



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- **Key Actions**
 - **Bring diverse information together and make best decision for program**
- **Key Questions**
- **After evaluating all the facts and developing courses of action (COA), what is the best strategy?**
 - **What specific evidence and decision criteria is driving your conclusion?**
 - **Is there new evidence that would impact your decision?**
 - **Was your strategy successful?**
 - **What are the lessons learned?**





Keys To Critical Thinking



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Program Outbrief

Stop and
Decide

- Provide **honest assessment** of program issue and recommended COA based on evidence and decision criteria
- Provide all necessary information
- Use specific facts and figures when required
- Answer all questions asked
- Use expressions that show respect
- **Give additional information only when needed**
- When possible, **bring key IPT members** with you to help address questions





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Triple S!

Critical Thinking



Last Thoughts...

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SOMETIMES, YOU NEED TO STEP
OUTSIDE, GET SOME AIR, AND REMIND
YOURSELF OF WHO YOU ARE AND WHO
YOU WANT TO BE.