



# Creative Thinking Is the Cornerstone of Critical Thinking

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**"CRITICAL THINKING IS IMPORTANT."  
"Everyone needs to critically think to improve acquisition outcomes."**

Critical thinking has become a key aspect of the acquisition lexicon. The concept is touted as one of the crucial factors in obtaining positive acquisition results. I have been teaching critical thinking for more than 18 years, and I agree it is an important tool and can truly improve acquisition outcomes. But I fear it has acquired buzzword status. I believe that many people use the term without really understanding what is involved and how it truly is done. It is easy to say "I'm a critical thinker" and much harder to really do it. In fact, I believe it is harder to critically think in today's acquisition environment than it has been in the past. I'll explain the reasons for that later in the article.

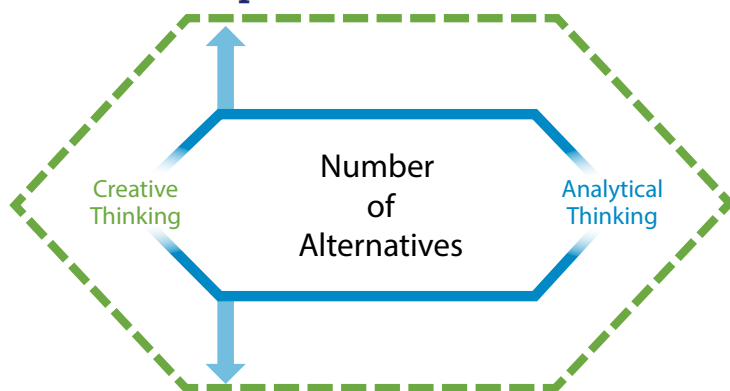
A multitude of articles and authors are outlining and describing critical thinking in abstract and intellectual terms; the differences stem from an author's desire to sell their books. Observations by these authors include Robert Ennis: "Reasonable reflective thinking aimed at deciding what to believe or what to do," and Richard Paul: "Critical thinking is thinking about your thinking." This article aims to consider several of the aspects, concepts and factors of critical thinking in basic, easy-to-understand terms.

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## Figure 1. Relationship Between Thinking and Our Predispositions



Source of figures: The author.

some risk with them that should be considered in the decision-making process.

Consider the last time you were on a team in a brainstorming activity. The first 10 to 15 ideas put forward were standard, run-of-the-mill ideas—nothing special. After the “easy” ideas were exhausted, people started suggesting more imaginative and unusual thoughts. People probably started building on each other’s ideas. Perhaps the more imaginative, eccentric or even silly ideas might have sparked an innovative suggestion. Research has shown that is only after the “easy” or ordinary ideas are presented will the group start generating innovative ideas or solutions. When I’m facilitating a brainstorming session, I look forward to hearing the “silly” ideas, because I know the participants are starting to stretch their creativity. They are starting to knock down the boundaries that impede creativity. It is this creative aspect that propels us to consider pioneering, radical and perhaps even revolutionary options. Thus, creativity is a cornerstone of critical thinking.

That discussion might lead you to believe that creative thinking is most beneficial when determining the alternatives in the problem-solving process. Hmmmm, I’m not sure if that is true. Creative thinking does indeed increase the number of alternatives considered. But let us consider where a creative activity followed by an analytical thinking process might enhance our decision making or outcomes. I’ve always believed that identifying the problem or defining the decision was the most critical aspect of the decision-making process. Without uncovering the source of the problem, it is easy to resolve a symptom and not the problem itself. Outcomes should be improved by using creative thinking to consider what “might be” the possible problem and then analyzing the assembled facts to ascertain the precise problem. Many people are familiar with the “Five Why” questioning technique to ascertain the root cause.

It is a simple but fairly effective technique. You simply ask yourself “why did this happen?” After you determine the answer, you ask the question again. You continue to ask the question about the answer until you’ve reached the root cause. This is an example of using a common creative thinking tool to define the problem. Again, our biases can affect this process as well.

Figure 2 highlights the fact that I believe critical thinking, both creative and analytical thinking, can be used in every step of the decision-making process, thereby improving decisions and outcomes. In addition to using creative thinking to identify potential implementation approaches, a creative thinking tool can improve how a solution is implemented in force field analysis.

Force field analysis is a focused brainstorming activity. The decision maker or program team lists (brainstorms) all the factors favoring the implementation and all the forces hindering it. Then the team develops a plan to remove or reduce the hindering forces, and the implementation becomes easier.

Let’s get more focused on the components of critical thinking. Numerous articles and books expound on critical thinking models and approaches. I believe many share similar steps and components, I primarily have worked with Linda Elder and Richard W. Paul’s model in their 2001 book *Foundation of Critical Thinking*. Elder and Paul’s book discusses Intellectual Standards, Elements of Reasoning/Thought, and Critical Thinking Intellectual Traits. For article length considerations, I will focus my discussion only on their Elements of Reasoning/Thought; purpose, information, inferences, concepts, assumptions, implications and point of view.

First, purpose: What are you trying to accomplish? If the purpose of your thinking is to solve a problem, you will ask different questions than if you’re simply trying to comprehend a complex theory or situation. Your purpose will determine the types of questions you will ask and how they are asked. Obviously, the questions will determine what Information or facts are gathered. The information gathered will influence the inferences or conclusions. The key concepts or ideas which are generated or considered will be directly related to the type information collected. The assumptions we make are based upon our biases and experiences and directly influence the inferences made. Our assumptions also may impact the questions we ask, and this indicates that they influence almost every element of reasoning. Our point of view also impacts most of the other elements; how many different points of view are there in this situation? Finally, the implications or long-term impact

of the decision should be considered. The secondary and tertiary impacts often are overlooked.

After just this short overview of the elements of thought, clearly conducting both creative and analytical thinking on each element can enhance our thinking and ultimately our decisions. Each element plays an important role in critical thinking. But I believe the two most influential elements are assumptions and point of view, because they are based on our personal experiences. The assumptions we make are undoubtedly influenced by our personal biases. Without a concerted effort to recognize the bases of our assumptions, they unconsciously will sway our decisions and possibly result in a less-than-ideal outcome. Our point of view tends to drive our focus on how the decision impacts us or our organization. It is imperative in using critical thinking to consider multiple points of view. It is crucial to identify how a decision impacts other stakeholders and the organization as a whole.

Earlier in the article, I mentioned that I believe that it is harder to critically think in the Department of Defense (DoD) acquisition environment today than it was years ago for two major reasons. First, in our understandable urgency about speeding delivery of our products and services to the point of need, we must still provide adequate if expedited time for planning so that we can secure the required quality. I understand clearly that the acquisition process needs to be responsive. I am very aware that our adversaries are innovative and that, to maintain our military

supremacy, the acquisition process must quickly respond to changes in the threat. In emphasizing “faster,” always a dominant theme in times of conflict, let us say “faster and well thought out.” As Dwight Eisenhower said, “Planning is essential.”

Second, from my limited perspective, it seems that the military Services have adopted Frederick Taylor’s philosophy of workforce specialization. Each acquisition professional is “stove-piped” and becomes an expert in one acquisition area. With limited functional experience, the acquisition professional’s thinking becomes myopic and one-dimensional. Critical thinking requires multidimensional thinking. How can a person who has only experience or training in one functional area consider other perspectives and understand interrelationships? Many years ago, the different functional area courses at the Defense Acquisition University provided insight into the relationships between the various functional areas. As training days have been removed from courses, interdisciplinary lessons have been lost. Unfortunately, one-dimensional knowledge begets one-dimensional thinking.

I believe that both of these trends must be addressed if DoD leadership and the Congress truly want a more thoughtful, more agile, and more responsive acquisition process where critical thinking improves acquisition outcomes.

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**Figure 2. Using Critical Thinking Throughout Decision Making**

