

What is Critical Thinking?

by Richard V. Michaels

Did you ever ask yourself, “Why am I doing this?”

Perhaps you have when you were working around your house on such projects as cutting the lawn or painting and wallpapering a bedroom. You probably wished you were doing something else -- sailing, golfing, or playing tennis. You also might have asked yourself that same question at work from time to time. You know—those moments when the phone won't stop ringing, your boss won't get off your back, and you can't seem to get a compliment from anyone about the outstanding work you've been doing. Those are the times most of us say to ourselves, “Why am I doing this?”

In our opinion, you should ask yourself the same question more often, particularly when you are trying to make a decision, or trying to solve a problem, and especially when you're becoming frustrated over something. In other words, we believe you should stop yourself often and critically think about what you're thinking!

Trying to guess what you might be thinking right now after reading the above, we'll bet it might be something akin to:

“Oh yeah, why should I think about thinking?”

We are assuming that this might be on your mind. Challenging and validating assumptions are a key component to critical thinking. As you read, please indulge us while we further develop our thoughts about the components of critical thinking and share with you our assumptions about what you might be thinking.

People ask themselves the question “Why am I doing this?” in order to evaluate their priorities. “Why am I painting? I'd rather be sailing.” “Why am I taking all this grief and becoming frustrated? I can get an easy job someplace else.”

Traditionally and habitually we have been trained to know and follow our priorities. This is common. Many times it makes sense, and almost always we will miss or mess-up something when we apply this lock-step “if-then-else” logical, self-indulgent approach to all of our thinking.

“Wow! Are the authors showing their lack of respect for this kind of thinking or what?”

Do our words bother you? What are you assuming when we say that thinking logically, making decisions based on priorities, and rationalizing outcomes based on sequential if-then-else scenarios is self-indulgent? According to Webster's New Collegiate Dictionary the phrase "self-indulgent" means: "excessive or unrestrained gratification of one's own appetites, desires, or whims."¹

"Oh, maybe they mean that this type of thinking could be flawed because it only considers one person's view"

You are now thinking critically!

Let us for a moment consider that you have been asked to develop an orientation program for new employees joining your company. Further, the requirements have been pre-established that this program must be self-paced and run in a multi-media computer format. Your job on this project is to be the project manager and you will staff and direct all efforts.

Probably the first thing you realize is that this will require a team effort. No one person can perform all of the tasks required to produce a multi-media training lesson. You determine that the people you will need include, instructional designers, research analysts, computer programmer, writers of the content both for computer generated text but also audio scripts, video producer, graphic artist, and subject matter experts for the content. Next you begin by assembling your team and establishing the goals, milestones, and priorities. **Right?** Maybe not! What have you missed?

"Oh no, here they go again! Okay, I know, project budget, time frame, team meeting ... I thought this was about Critical Thinking not Project Management."

What about the team and what about you? Why are you doing this and why are they?

"Because you told me to and I told them."

Come on THINK self-indulgence!

"All right, the boss wants it; the company doesn't have an orientation program; new employees are confused about what the company does; it's a high visibility project and if I do it right I could get a promotion."

What about the others?

Others?

The team!

¹ Webster's New Collegiate Dictionary, G. & C. Merriam Co., 1981

“Right, it’s their job; they like doing this kind of stuff; it’s creative and different; maybe they’ll get promoted.”

Good, you’ve taken a step forward in critical thinking and you have used what we call **active thinking**. To think actively is to think pro-active, participative, and to make decisions and draw conclusions based primarily on an inner desire to achieve immediate results. John Chaffee in his 1991 book Thinking Critically says: “When we are thinking actively, we are not just waiting for something to happen. We are engaged in the process of solving problems, achieving goals, and analyzing issues.”²

“All right I understand but what about this point of self-indulgence?”

The active thinking process is unique to each person. It is influenced by our own assumptions, beliefs, values, knowledge, experiences, and desires. Chaffee refers to this as “relativism” where thinking and believing are relative to context and person. In other words, you may want to work on the multi-media employee orientation project for one set of reasons and your team mates for another whole set of reasons. These varied reasons and beliefs will definitely influence what gets done and how it gets accomplished on the project. Especially since this is a team project. Each person will bring the own self-indulgent point of view to the project which will influence decisions, priorities and outcomes. Do you now see why this is important as you THINK about project success from an ACTIVE perspective?

“Yes, but could you now explain why you linked self-indulgence to logical, sequential if-then-else styles of thinking?”

It goes back to our training, education, and reward systems. We are encouraged (and the word *encouraged* may be too kind) to think logically, put tasks in logical order, to prioritize, and to achieve immediate results from our actions. Even great researchers and psychologists of adult education say that adults require learning to be participate, realistic, relevant, problem centered and immediately applicable (Knowles, 1980). Sound logical to you? Before you answer, let us ask you another question. Can you think of a time when your company rewarded you for taking your time on a project?

“No, I’m rewarded for actions and results. I now understand.”

What do you understand?

“Active thinking means getting involved mentally in solving problems, analyzing issues and situations, determining actions and directions, and making decisions. It is a personal thinking process which is influenced by our past behaviors, experiences, education, and learning. It primarily characterized by analytical, logical, and sequential thinking because it is

² Chaffee, John, Thinking Critically, Houghton Mifflin Company, Boston, MA, 1991, page 38.

oriented toward producing immediate results. When managing a team of people you must consider the motives behind each individuals active thinking decisions.”

Very good. And you have provided a very nice transition to **Strategic Thinking**, the second component of critical thinking.

“I have?”

Yes! ... Why are you doing the project?

“Are you back to this again? I told you why!”

What are the strategic reasons for doing the project? You gave us one already.

“Oh... Ahm... To get promoted?”

Yes. Could there be others? Why use such elaborate technology for an orientation program?

“Oh, I get it! They want to try out some new technology into the company and this could be a strategy for doing it.”

Very good, what else?

“Get new employees comfortable with technology they will be using in other parts of their jobs.”

Yes, you are learning. Thinking strategically requires you to think about the impact of decisions and what outcomes those decisions influence.

If you read the dictionary definitions of strategy and its derivatives you find that they reference war and trickery. Sun Tzu’s classic treatise *The Art of War*, written around 400 B.C., defines various kinds of war strategy and maybe this work influenced Webster’s definition and forever linked the noble process of strategic thinking to out-foxing the enemy.

However, in a more current interpretation of the book entitled *Sun Tzu War & Management*³ the authors describe seven different business reasons for strategic thinking. These include thinking about strategic advantage, alliance, controls, fit, plans, target, and timing. Unlike active thinking which is usually more short-term oriented and personalized, strategic thinking takes a longer term view and is more broad-based. Burt Nanus, professor of management at USC, puts thinking strategically in perspective when he says: “Knowing where the organization

³ Wee Chow Hou, et all, *Sun Tzu War & Management*, Addison-Wesley Publishing Co., Singapore, 1991

should be headed is one thing; developing a strategy for getting there is quite another.”⁴

Any questions?

“No, I think I understand. For the employee orientation programs I know who is on my team, what they want to get out of the project, I know the budget and time frame, so all I need to do now is to plan out my strategies for accomplishing it. I might consider some strategic controls to make sure we stay on schedule and look to out-source some of the work using a strategic alliance. I also have to find out why a multi-media system was chosen as the delivery system for this training to see if I’m right about bringing in new technology. It’s for the company’s future competitive advantage, right?”

No, Yes, and Maybe.

“What!”

Yes, you need to find out why multi-media and maybe it was for a competitive advantage strategy.

“You said No. No about what?”

You have much more to think about before you can say: “all I need to do now ...”.

Strategic thinking would be not be very different from active thinking if it wasn’t for one thing—external scenarios. By external scenarios we mean future events and occurrences that would have major impacts on the strategic decisions you have reached. Peter Senge describes scenario planning⁵ by recapping the famous case of Royal/Dutch Shell Oil’s “Group Planning” staff who in 1972 started the development of likely external scenarios in the oil industry and constructed detailed contingency plans in the event these occurred. Their accurate scenario and accompanying plans for dealing with a middle-eastern oil embargo resulted in the company successfully repositioning itself when the event did occur in late 1973.

Remember, with strategic thinking you are looking not only at the consequences of your decisions, you are also considering the opposite—the consequences of other decisions affecting yours.

“Okay, I guess I don’t know what I don’t know.” Yes, may we continue? *“Yes”*

Tell us one possible external event that could impact your project.

⁴ Nanus, Burt, Visionary Leadership, Jossey-Bass Publishers, San Francisco, CA, 1992, page 142

⁵ Senge, Peter, M., The Fifth Discipline, Doubleday, New York, NY, 1990, pages 178 - 181

“Late delivery of the required computer equipment could delay the project.”

Correct.

In our continued reflection of critical thinking the third area to consider is **Systems Thinking**. This form of thinking considers the problem, issue, or topic under consideration from a holistic perspective. In essence, it's not about one thing it's about everything and their relationships.

“Whoa, back-up and slow down! Are we talking computers here? I mean this systems thing. I think I'm getting lost already. Active - okay, Strategic - all right, Systems - overload!”

“Though theory without experience is mere intellectual play, experience without theory is blind.”⁶

The term Systems Thinking has been popularized by such contemporaries as Peter Senge and Chris Argyris. However, the theory and practice of this thinking discipline are much older and are credited to a man named Ludwig von Bertalanffy. Bertalanffy, a biologist and educator by profession who fled his Nazi occupied Austrian homeland in the 1930's, was the proponent of a concept he called General Systems Theory.⁷ This theory suggests that all living things and all entities that are comprised of living organisms, such as organizations and societies, are made up of a vast number of open and dynamic systems. These systems, which are not closed to outside influence, interact constantly with other systems in the surrounding area. As the interactions take place, changes to both systems naturally occur. He believed that all sciences included physical, biological, behavioral and social contribute to our understanding of how the total human system works.

Bertalanffy argued that to view the complex human system or any other system such as organizations, societies, or cultures, from only one point of view was foolish. He took particular opposition to the behavioral science work of B. F. Skinner as it was applied to education and consumer marketing in the 1950's and 60's for he felt that it was nothing more than robot schemes to manipulate people into becoming the “perfect consumer - that is, an automation properly answering in the way prescribed by the commercial - industrial - military - political establishment.”⁶ To Bertalanffy, if you are going to determine how a person thinks, you have to view the person as a whole organism, an object that is greater than the sum of it's parts. A human mind is a complex open system which is influenced by experiences, culture, genetics, environment, neurological development, society and numerous other means.

⁶ Bertalanffy, Ludwig von, *Robots, Men and Minds*, George Braziller, New York, 1967.

⁷ Bertalanffy, Ludwig von, *General Systems Theory*, George Braziller, New York, 1968.

So the term Systems Thinking is derived from Bertalanffy's theory of General Systems. The concept of System Thinking calls for us to examine our "mental models" (Senge, 1990) which are those "deeply ingrained assumptions, generalizations, or even pictures or images"⁵ that are influencing our thinking and decision making.

"Okay, so I have to think more holistically about this project. But I'm confused on where to start. The assignment seems so specific that I don't think Systems Thinking fits."

Let's go back and consider your answers so far to the question, "Why are we doing this project?":

- the boss wants it;
- the company doesn't have an orientation program;
- new employees are confused about what the company does;
- it's a high visibility project and if I do it right I could get a promotion;
- it's their job;
- they like doing this kind of stuff;
- it's creative and different;
- maybe they'll get promoted;
- they want to try out some new technology into the company and this could be a strategy for doing it;
- get new employees comfortable with technology they will be using in other parts of their jobs.

Look over the list. What assumptions have you made?

"Well, I've assumed that management wants this program. And I'm assuming it's to meet a need for training new employees. I'm also assuming that the choice of technology means that there are broader strategic reasons for doing the project."

Correct, but what are you assuming about the topic?

"That it's basic training on what the company does, like what products we sell, what the various departments do, et cetera."

So your mental model is about how the company operates today and the long term value of the orientation program you develop is dependent on the current organizational structure. What value does your finished program have, if twelve months from now your organization reengineers all of its work processes and restructures all of its departments?

"I see, you are asking me to look beyond today's models and consider tomorrow's."

Yes

“Isn't this similar to Strategic Thinking?”

Yes, there is overlap particularly when contemplating the future. But, Systems Thinking also contemplates the past. Remember, in open systems theory all systems are influenced by others. So, current decisions are affected by past decisions. Thus, the prudent Systems Thinker always examines potential decisions to see if they are based on flawed mental models from the past.

“So some of my questions should be:

- *Are we assuming correctly that there will be a continuing need for new employee orientation training?*
- *Have the company's hiring practices of the past influenced the decision on the topic for the training?*
- *What mental models are we operating by when we chose the topic and the technology?”*

You have learned much. Would you care to re-cap?

“Critical thinking has three major components. These are Active, Strategic, and Systems thinking. Active thinking is highly personal, it is influenced by our own assumptions, beliefs, values, knowledge, experiences, and desires. Primarily in active thinking we attempt to use the logical and sequential processes to which we were trained and educated. The motivation for active thinking is to solve immediate problems.

Strategic Thinking is more future directed and is motivated by our desire to achieve long-term results. It requires a broader view and perspective. Planning for likely external scenarios is also a key characteristic of strategic thinking.

Finally, Systems Thinking embraces the concept of a holistic approach to our critical thinking process. In this type of thinking we not only look at the current (active), future (strategic), but also considers the past and how all the frames of reference influence our thinking. The motivation for Systems Thinking is our desire to know how we got where we are in our thinking and what possible past, present, and future conditions might exist which would influence our current decisions.”

Very good! There is always more to think about.

About the Author

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