An Exploration of Critical Thinking

Necessities, Barriers and CAT MAGIC Notion

Researcher Mohammad Reza Noruzi
Islamic Azad University, Kaleibar, Iran
mr.noruzi.pnu@gmail.com

Research Professor José G. Vargas Hernández, MBA; PhD
University Centre for Economic and Administrative Sciences U of G., Mexico
josevargas@cucea.udg.mx

Abstract: In the recent years Critical Thinking has become blurry and complicated and it is entered in almost all areas and for decades, it has been conducted a substantial body of research on critical thinking. But there are very little researches in the area of critical thinking and management of organizations sphere. This paper aims at reviewing the critical thinking and the necessities and barriers of implementing critical thinking in the organizations as well.

Keywords: Critical Thinking; Necessity; Barriers; CAT MAGIC

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1. Introduction

Making decisions in such a chaotic atmosphere of time pressure, uncertainty, and conflicting expert opinions creates challenges for any CEO. Making appropriate and logical decisions in crisis situations is even more demanding. Critical Thinking focuses on reframing and rethinking issues so that the right problems would be addressed; it also focuses on distinguishing systematic patterns from random events and identifying acceptable risks in alternative decisions so that the right decision helps the firm or company to survive in this era of uncertainty. In the process of critical thinking, issues like Decision Making: from Decision to action, best and appropriate decision model, decision framing, intelligence gathering, managing the stakeholders, organizational culture and decision making, ethical considerations, peripheral vision, managing uncertainty using scenario planning, bridging the

division between decision making and execution are included (Executive Education, 2008).

This paper first analyses critical thinking a brief history, some definitions from different researchers to help the reader distinguish different perspectives regarding critical thinking then necessity of being critical thinker and why critical thinking is important in organizations and then critical thinking barriers at work, CAT MAGIC acronym also some critical thinking assessment tests and at the end some practical proposes.

2. Critical Thinking

Critical thinking theoreticians agree that the intellectual roots for critical thinking primarily began with Socrates' form of questioning (Lipman, 1995) (Thayer-Bacon 2000).

As Paul (1987) argues that there is a problem with the entire notion of attempting to produce one-line definitions of complex concepts such as critical thinking. Such "definitions" are, for Paul, inevitably incomplete and limiting.

2.1. Some Critical Thinking Definitions:

There are varieties of definitions regarding critical thinking among researchers and public, but the following are according to Cosgrove (2009, pp. 19-20):

(1) An attitude of being disposed to consider in a thoughtful way the problems and subjects that come within the range of one's experiences.

(2) "Knowledge of the methods of logical inquiry and reasoning, and some skill in applying those methods." (Glaser, 1941, pp. 5-6)

(3) "Reasonable and reflective thinking about what to believe or do" (Ennis, 1989)

(4) "The ability to participate in critical and open evaluation of rules and principles in any area of life" (Scheffler, 1973, p. 62)

(5) Dr. Elder said, Critical thinking involves the ability to:

- Raise vital questions and problems;
- Gather and assess relevant information;
- Use abstract ideas to interpret information effectively;

- Come to well-reasoned conclusions and solutions, testing them against relevant criteria or standards;
- Think open-mindedly within alternative systems of thought, recognizing and assessing their assumptions, implications, and practical consequences (Doughty, 2006, p. 2).

(6) "Thinking that devotes itself to the improvement of thinking" (Lipman 1984, p. 51)

(7) "Skillful, responsible thinking that is conducive to good judgment because it is sensitive to context, relies on criteria, and is self-correcting." (Lipman, 1995, p. 116)

All definitions are true and the appropriate one is the one which is most compatible with reader and researchers' goal so it can be selected the one which is more compatible with our research question.

3. Characteristics of Critical Thinking

"A critical thinker is…one who is *appropriately moved by reasons*…critical thinking is impartial, consistent, and non-arbitrary, and the critical thinker both acts and thinks in accordance with, and values, consistency, fairness, and impartiality of judgment and action" (Siegel, 1990, pp. 23; 34). Some characteristics of critical thinking are:

1. It is purposeful;

2. It is responsive to and guided by intellectual standards (relevance, accuracy, precision, clarity, depth, and breadth);

3. It supports the development of intellectual traits in the thinker of humility, integrity, perseverance, empathy, and self-discipline;

4. The thinker can identify the elements of thought present in thinking about any problem, such that the thinker makes the logical connection between the elements and the problem at hand;

5. It is self-assessing and self-improving. The thinker takes steps to assess his/ her thinking, using appropriate intellectual standards. If you are not assessing your thinking, you are not thinking critically;

6. There is integrity to the whole system. The thinker is able to critically examine his/her thought as a whole and to take it apart (consider its parts as well). The thinker is committed to be intellectually humble, persevering, courageous, fair, and just. The critical thinker is aware of the variety of ways in which thinking can become distorted, misleading, prejudiced, superficial, unfair, or otherwise defective;

7. It yields a well-reasoned answer. If we know how to check our thinking and are committed to doing so, and we get extensive practice, then we can depend on the results of our thinking being productive;

8. It is responsive to the social and moral imperative to enthusiastically argue from opposing points of view and to seek and identify weakness and limitations in one's own position. Critical thinkers are aware that there are many legitimate points of view, each of which (when deeply thought through), may yield some level of insight.

4. Necessity of Being Critical Thinker, Why Critical Thinking is Important in Organizations

This part starts with a question that mainly has its answer for most people, that is "not very often". The question is "how often do you think about how you think?" Every day we each make decisions, generate ideas, draw conclusions and evaluate other people's opinions and so on. These are things that often need careful thought.

The necessities of being critical thinker have been studied a lot and among different researchers we present the following:

1. Being critical thinker is better than the passive acceptance of beliefs;
2. Appreciate the relevance of the claim "The unexamined life is not worth living" to critical thinking (Vaughn, 2005);
3. Understand why the following claims are dubious: "Critical thinking makes people too critical or cynical," "Critical thinking makes people cold and unemotional," and "Critical thinking is the enemy of creativity.";
4. The pervasive use of critical thinking in all human endeavors (Vaughn, 2005).
5. Keeping close look on assets like client, staff, organization;
6. Describing and identifying manners and behaviour that is unrelated to our proposed context in the organization;
7. Classifying clients better to better servicing them;

8. Causing Continuing intervention too short;
9. Focusing on relevant and proper factors;
10. Selecting efficient and effective intervention methods;
11. Increasing client satisfaction (Gambrill & Gibbs, 2009).

5. Some Features of Critical Thinkers

According to Paul (1993), the critical thinker will routinely ask the following questions:

- What is the purpose of my thinking (goal/objective)?
- What precise question (problem) am I trying to answer?
- Within what point of view (perspective) am I thinking?
- What concepts or ideas are central to my thinking?
- What am I taking for granted, what assumptions am I making?
- What information am I using (data, facts, observation)?
- How am I interpreting that information?
- What conclusions am I coming to?
- If I accept the conclusions, what are the implications? What would the consequence be if I put my thoughts into action?

For each element, the thinker must consider standards that shed light on the effectiveness of his/her thinking (Paul, 1993, pp 20-23) (Gambrill & Gibbs, 2009).

6. Critical Thinking Barriers at Work, CAT MAGIC Acronym

There are a lot of barriers regarding implementing critical thinking and researchers and management specialists have identified more than 100 different barriers that prevent effective critical thinking. According to Pinder (2007) there are eight roadblocks that all executives should keep in their mind. To help remember these eight, here is an acronym for them – CAT MAGIC.

1. **C**onfirmation bias – bending evidence to fit one's beliefs. How many times do executives look for information that supports their point of view as opposed to seeking evidence that is individually or group "neutral?" The best way to fight this natural temptation of confirmation bias is to actively seek information that disproves beliefs.

2. **A**ttribution (or self-serving) bias – the belief that good things happen to us because of internal factors and bad things happen to us because of external factors, while the reverse is true with others. This bias causes us to pigeonhole the actions of others, especially bad behaviour, as strictly the fault of the individual and not circumstances.

3. **T**rusting testimonial evidence – the fallacy of believing information from someone else, even if there is no evidence to support their statements. Studies have consistently shown individuals are more likely to buy something on the recommendation of others than the strength of advertising or some other marketing effort, yet how many of those same people actually know the veracity of those recommendations?

4. **M**emory lapses – while this barrier seems on the surface to be fairly self-explanatory (everybody has gaps in memory), its danger lies in the common human trait of filling in the memory gaps with information that may or may not be true. In other words, we make things up as we go along, which often prevents us from arriving at more fact-based decisions.

5. **A**ccepting authority without question – a behaviour documented by the famous experiments of researcher Stanley Milgram in which many people were willing to administer increasingly more powerful shocks to other people on the orders of an authority figure, even though they weren't sure it was the right thing to do. This critical thinking failure continues to manifest itself today in the blind acceptance to people with questionable degrees or expertise.

6. **G**eneralizing from too few observations – a common practice in consumer marketing where a small group of people in a focus group determine the direction of multi-million dollar ad campaigns, even though the opinions of those people cannot be projected onto a larger population. The same occurrence happens when a small group of executives or board members discuss an issue. We must constantly resist the temptation to take these informational shortcuts. For example, one way to counter the built-in bias of small groups is to seek out the unvarnished input from employees lower on the organizational chart (Pinder, 2007).

7. **I**gnorance and the failure to admit it – a trait that leads to fabricated information and wild speculation. Nobody wants to look foolish, so instead of admitting his or her lack of knowledge a person may fake it and then explain the fakery in a way that makes it seem true. Beware of those who are quick with answers or slow to admit they don't know something.

8. **C**oincidence (or the Law of Truly Large Numbers) – the mistaken belief that pieces of information have causality when, in fact, they are the result of a pure coincidence or the law of large numbers. Any large block of data will show connections, but those connections most likely have no other meaning. For example, some hospital CEOs will likely have red hair, but no other link can be made between being a CEO and red hair (Pinder, 2007).

7. Some Critical Thinking Assessment Tests

The purpose of the critical thinking tests is to provide an assessment of the fundamentals of critical thinking that can be used in any subject. The following instruments are available to generate evidence relevant to critical thinking teaching and learning:

1. Course Evaluation Form: provides evidence of whether, and to what extent, people perceive faculty as fostering critical thinking in instruction;

2. Critical Thinking Subtest: Analytic Reasoning: provides evidence of whether, and to what extent, people are able to reason analytically;

3. Critical Thinking: Concepts and Understandings: provides evidence of whether, and to what extent, people understand the fundamental concepts embedded in critical thinking;

4. International Critical Thinking Test. This test is different from the traditional one and asses the most contemporary issues;

5. Fair-mindedness Test: provides evidence of whether, and to what extent, people can reason effectively between conflicting view points;

6. Critical Thinking Reading and Writing Test: Provides evidence of whether, and to what extent, people can read closely and write substantively;

7. Insight Assessment "Leaders in assessment and evaluation services." Peter Facione's business. Vendors of many useful tests including the California Critical Thinking Skills Test;

8. International Critical Thinking Test: provides evidence of whether, and to what extent, people are able to analyze and assess excerpts from textbooks or professional writing;

9. Commission Study Protocol for Interviewing Faculty Regarding Critical Thinking: provides evidence of whether, and to what extent, critical thinking is being taught (Ausththink, 2007);

10. Foundation for Critical Thinking Protocol for Interviewing Faculty Regarding Critical Thinking;

11. Foundation for Critical Thinking Protocol for Interviewing Students Regarding Critical Thinking: provides evidence of whether, and to what extent, people are learning to think critical thinking;

12. Criteria for critical thinking assignments. Can be used by faculty in designing classroom assignments or by administrators in assessing the extent to which sector are fostering critical thinking (Ausththink, 2007);

13. Rubrics for assessing staff reasoning abilities. A useful tool in assessing the extent to which employee are reasoning well through course content (Ausththink, 2007);

14. Sourcebook of Assessment Information, National Postsecondary Education Cooperative "The Sourcebook is an interactive version of Definitions and Assessment Methods for Critical Thinking, Problem Solving, and Writing, by Dr. T. Dary Erwin;

15. Science phobia by Thomas D. Cook. Argues for using proper randomized trials in education research.

8. Conclusions and Suggestions

Like any other behaviour in life critical thinking can be developed and it worths doing, good critical thinking is all about turning ideas into habitual behaviour. For being critical thinking manager, first managers should recognize critical thinking skills might not be up to par and then they must go about improving them and without knowing the skills, they will not know which skills they should improve. Also we know that knowing is the key in all problems solving processes. Only when they start applying news skills again and again and repetitively to a variety of circumstances then their skills stick and generate results. Managers should note that for the current international business circumstances having the critical mind and thinking is compulsory and Critical thinking must become a force of habit for top

leaders, much like their breathing. Like other dynamical capabilities the critical thinking must become part of your leadership core.

9. Practical Suggestions to Foster Critical Thinking among Staff

The following guides will help managers to teach critical thinking to their employees in the organizations and firms.

1. Participating staff in critical thinking conferences, the conference sessions are designed to conver the basic critical thinking principles and to enrich a core concept of critical thinking with practical teaching and learning strategies for staff.

2. Throughout workshops organizations, to emphasize and argue for the importance of teaching for critical thinking in a strong, rather than a week, sense.

3. Advocate a concept of critical thinking and teach the staff that critical thinking applies directly to the everyday needs and professional life (CCT, 2007).

4. Staff should know, by being critical they will get good promotions.

5. Explaining the critical thinking notion and its importantance at the workplace.

6. Help staff to recognize contradictions and inconsistencies.

7. Help staff to identify unstated assumptions.

8. Help staff to clarify and analyze the meaning of words or phrases.

9. Help staff to clarify problems.

10. Help staff to identify significant similarities and differences.

11. Help staff use sound criteria for evaluation.

12. Help staff to clarify values and standards (Gambrill & Gibbs 2009).

13. Help staff to detect bias

14. Help staff to refine generalizations and avoid over simplifications.

15. Help staff to clarify issues, conclusions, or beliefs.

16. Help staff analyze or evaluate arguments, interpretations, beliefs or theories (Gambrill & Gibbs 2009).

17. Having clear goals in the organizations so that the employees get the goals clearly and should be substantive and meaningful.

18. Giving time for employees' critical questions and critical problems.

19. Teaching employee about the key issues that we want to be critical.

20. Help employees learn how to identify the most basic logic assumptions from non logical issues.

21. Offering Critical thinking assignments which address fundamental and powerful concepts.

22. Teach employees how to make inferences issues by data or information and analyze them for the critical weekly or monthly meeting in the organization.

23. Help employees learn how to distinguish hypothesis, assumptions, inferences and implications from others (CCT, 2007).

24. Empower the employees with different thinking (think historically, think scientifically, think mathematically, think spatially, think inner and inter personally).

25. Help them to think like experts, thinking rationally, accurately, logically, fairly and deeply.

26. Help employees to think in the point of view of those with whom they disagree and thinking more reasonably.

27. Encourage employees to think for themselves using logical and intellectual discipline.

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