Critical Thinking in the Workplace: Characteristics, and Some Assessment Tests

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Abstract. 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. This paper aims to review the critical thinking and the necessities and barriers of implementing critical thinking in the organizations as well. This paper aims to study the critical thinking notion in the area of management and organization and then will discusses the relative advantages of critical thinking in the organization as well.

Keywords: Critical Thinking, Necessity, Barriers

1. Introduction

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

This paper first discusses 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, also some critical thinking assessment tests and at the end some practical proposes come as well.

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. Critical Thinking Definitions

There are varieties of definitions regarding critical thinking among researchers and public but following are some 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, 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, 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, 51)

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

All definitions are treue 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.

2.2. 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" (Emphasis in original; 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.

2.3. Characteristics of Good 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).

2.3. Organizational and Work Related Critical Thinking Barriers

There are lots 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. Confirmation 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. Attribution (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 behavior, as strictly the fault of the individual and not circumstances.

3. Trusting 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. Memory 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. Accepting authority without question – a behavior 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. Generalizing 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. Ignorance 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. Coincidence (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).

2.4. 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 (Authsthink, 2007).

3. Conclusion

Critical Thinking focuses on reframing and rethinking issues so that the right problems to be addressed, also focuses on distinguishing systematic patterns from random events and identifying acceptable risks in alternative decisions so that the right decision help the firm or company to survive in the era of uncertainty and be survive.

This paper reviewed the different aspects of critical thinking in the organization and the relative advantages as well.

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