

CULTIVATING CRITICAL THINKING WITHIN ORGANIZATIONS

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Abstract

Today's executive leaders require the ability to change, rethink and prepare for mobility, innovation, flexibility, agility, and change. The importance of critical thinking as a basis for self-empowerment and design thinking are necessary toward growth and innovation in a socially networked global society. Executives need to cultivate critical thinking within their organizations to assure successful decision making occurs leading toward organizational advancement, whether measured in achievements or net profits.

Senior executives who encourage the management team to develop critical thinking skills among employees are essential for expanding and improving the work environment. Critical thinking also forms the basis for design thinking, which is emerging as a management technique. Design thinking provides problem-finding frameworks that enable and drive innovation and strategic leadership, along with radical collaboration among human resources. Top tier universities incorporate instruction to fulfill the needs of innovative organizations that request a higher order of thinking and the importance of building and nurturing radical collaboration among employees (Stanford Graduate School of Business, 2014).

The ever changing world requires executives and managers to adapt and develop abilities and competencies to continuously practice critical thinking to prepare for such changes. Critical thinking allows managers and employees the ability to consider evidence carefully on all issues from all viewpoints and to determine what is rational and realistic when developing a strategic focus or plan of action within the organization. The ability to think critically is often identified by executives as one of the most important areas to consider within their new hires: Budryk (2013) indicated that thinking, communication, and problem-solving skills are more important for new hires than for major areas of study or colleges attended.

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1. Critical Thinking within Organizations

A "higher order" of thinking is often cited for hires, as well as what is needed from employees within the organization. Critical thinking provides managers with knowledge and skills to assess decisions. It is a tool used for assisting and separating the truth from opinion. It assists in the analysis, evaluation, and integration in the everyday strategic decision making leading toward successful outcomes wherein an administrator can adequately defend ideas, determine whether recommendations are feasible, and identify best solutions for effective results. We also find critical thinking as a foundation for what is known as design thinking. Design thinking is a recent executive trend used as a proven and repeatable problem-solving protocol. Any business or professional can employ design thinking to achieve extraordinary results in organizations (Fast Company Staff, 2014). Burnette (2005) described design theory as "a process of creative and critical thinking that allows information and ideas to be organized, decisions to be made, situations to be improved, and knowledge to be gained." In his IDeSiGN curriculum, Burnette (2009) included a discussion on the importance of critical thinking within his theory.

Expanding the ability of critical thinking can assist in conducting the organizational operations of executives as well as carrying on to their personal and professional enrichment by listening and reading in a critical light, both of which can expand and improve their analytical thinking necessary for successful decision making. Karr (2009) stressed that executives need to focus on thinking creatively, critically, and with curiosity using focused questions to manage risk, improve productivity, and coordinate employee talents in a time of rapidly changing

organizational environments. "Razor-sharp" critical thinking skills and training programs are needed at this time (Fast Company Staff, 2014). Also, executives and management need to think creatively, critically, and with curiosity to be sure they make the correct administrative decisions that answer the right questions, manage risk, and improve productivity as well as use knowledge, skills, and abilities effectively to expand communication within accelerating global communications. Critical thinking skills and training programs are needed to assure each member that the organizational structure knows, understands, accepts, and supports the vision and mission of the organization.

This emphasis on critical thinking would also encourage seeking informational resources within and outside an organization. Successful executives stress the need for critical thinking and foresee their continuing role toward the development of thinking and information needed within new and emerging technologies that continuously increase global communications. Strategic thinking is most often identified as the key to success among executives and employees, and successful employees contribute to the success of the organization. As often noted, success breathes success. Employees want to be identified with a successful organization and a successful and professional career.

Chartrand, Ishikawa, and Flanigan (2006) identified the most important skills needed both for employers and employees now and for the future. Critical thinking ranked even higher than innovation or information technology knowledge. A report for Education in the New Global Economy (2007) conducted by Ohio business and government leaders produced a list of the 10 most important skills needed to succeed in the global economy. Critical thinking was at the top of that list as well as two subthemes or outcomes of critical thinking: problem-solving and

2. The Brain and its Role in Critical Thinking

Because critical thinking involves various parts of the brain, we can appreciate its function if we understand the basics of the brain. The frontal lobe is responsible for the brain's control functions, which includes one's ability to plan, take action, problem solve, and learn and remember from error: "It's what enables you to evaluate situations, formulate strategy and achieve detailed objectives" (Marbles, 2012). The activities associated with critical thinking are the frontal lobe of the cerebral cortex, which regulates decision making, problem solving, behavior, consciousness, and emotions; the primary sensory cortex, which processes sensory information received from the body; the parietal lobes, which receive and process sensory information from the body and where letters from words and words combine into thoughts; the temporal lobe is one of four parts of the cerebral cortex and involves emotions, memory, language, hearing, and learning (National Institutes of Health, n.d.).

Although researchers have made significant achievements with understanding the brain functions, it is not understood how the brain creates behavior. We do know, however, that critical thinking results from neurotransmitters, chemicals that transmit signals from one neuron to another targeted neuron to produce critical thinking. We can generalize and state that critical thinking is characterized by neurons activating the cortex. We know that critical thinking consists of analyzing, synthesizing, developing strategies, planning possible outcomes and solving problems; however, although fMRI (which offers images of the structure and functioning of the brain) may indicate where brain activity occurs as people think and experience emotions, there is no valid scientific results that the activity is actually causing the associated thoughts and feelings (Aldridge, 2005).

3. Characteristics of Critical Thinking

Critical thinking involves reasoning in a logical manner, evaluating what is written or spoken, reflecting on individual thoughts and ideas, and reasoning as questions are posed to clarify understanding. A prime objective of any executive within an organization should be to provide opportunities for management to encourage thinking skills during discussions and dialogue, especially within a decision making time such as a meeting or in conference communication. Critical thinking follows a path, which leads executives and employees toward effective crucial decision making, for allows the brain to accept, reject or suspend judgments in order to reach a final decision.

Executives should encourage all members of the organization to exercise critical thinking within the organization. Employees should be encouraged to practice with identifying organizational practices, asking appropriate questions, analyzing and synthesizing information, , and evaluating the decision processes and its

results. These practices will improve everyday decisions made by executives and employees toward reaching effective solutions to strategic policies and organizational strategies. Critical thinking is a learned ability as evidenced by educational research, similar to practicing and excelling in sports, riding a bicycle, or driving to work, all of which require practice and certain basic skills. Active utilization of critical thinking assures individuals are maximizing their understanding of how they and others think and behave toward achievement. When encouraged it enhances discussions in an organized and analytical manner.

An executive can integrate critical thinking within the workplace by creating an awareness of the importance of critical thinking within each schedule of events, group meetings, planning, and project management coordination, analysis of financial reports, and organizational trends and projections. The result will be a team of administrators and employees with the ability to use critical thinking techniques through self-directed leadership and an expansion of the pool of leaders ready to take on new and creative organizational activities as a result of becoming good decision makers and problem solvers.

To facilitate critical thinking strategies, researchers have indicated specific guidelines. An executive who wishes to entice critical thinking in administrative functional meetings in management, finance, public relations/marketing, and human resource meetings can do so by encouraging employees to ask questions. Questions can assure executives that employees can understand the situation, examine the evidence, contemplate any implications, question their assumptions, explore different perspectives, and consider other questions which may be crucial to the outcome of the meeting or group effort (Purdue University Center for Student Achievement, n.d.). For online discussions, it is suggested that some "beginning questions" be provided referring to agreeing or disagreeing with indicated statements to encourage different points of view based on readings and earlier discussions, and outlining potential situations and outcomes (Purdue University Center for Student Achievement, n.d.).

4. Foundations of Critical and Strategic Thinkers

Changing Minds (2013) noted that the Socratic Method is the basis of critical thinking because it enables an individual to cross-examine the claims of another individual to see if there are any inherent contradictions or inconsistencies in claims. If individuals use Socratic questions, they are able to determine accuracy and comprehensiveness of thought so that people can learn to their highest ability. Not only can critical thinking help people address others' thoughts but also their own so they can reflect and elaborate on personal assumptions, ideas, and interactions (Changing Minds, 2013). This ability is mostly notable in transformational leaders within organizations. An organization can benefit from Socratic questioning toward challenging the accuracy and completeness of thought. It also assists executives to clarify concepts; to ask for or to give specific examples; to make assumptions and beliefs that underlie opinions; to explore different viewpoints and to acknowledge that they are equally valid and to listen to other points of view; to imagine possible consequences of an idea; and to circle around the original question and even to use one's attacks upon oneself. If the curiosity of employees is aroused, then not only are workers motivated to accomplish tasks, but they will also be better problem solvers regarding other organizational functions. An executive or manager's approach to thinking in any task can be "scientific" rather than emotional as evidenced by questions that seek credible sources, ask for clarification, and request additional information prior to accepting or pursuing decision making or action orientation tasks. Critical thinking also enhances the ability to change based on facts, logic, and evidence for the change, usually to extend and improve anything within the organization. An interesting web site that could be used in creating change can be found at <http://www.criticalthinking.org/pages/critical-thinking-where-to-begin/796>, an organization that claims it is the largest site worldwide on how we change what others think, believe, feel and do (Changing Minds, 2012).

5. Action Steps toward Critical Thinking

Prior discussion was on the features and the benefits of critical thinking in the workplace. Let us now turn to how leaders, executives or managers, involve their employees to pursue critical thinking. In McGraw-Hill (2000), Reichenbach discussed critical thinking beginning with the critical thinking disposition, which is the willingness to begin acting as a critical thinker. A critical thinker should be curious regarding various functions, be questioning, ask *why*, seek credible sources, appear relevant and focused, look for alternative explanations, be willing to

change a position, be precise, be able identify any biases, anticipate the next steps, be sensitive to others, and employ strategies in a carefully reasoned direction.

Reichenbach's 6 steps that guide critical thinking are identified as follows: *knowledge*, in which one identifies what is being said (e.g., the topic); *comprehension*, which means understanding material, whether visual, auditory, or through reading; *application*, in which one carries out a task to apply what one understands; *analysis*, which involves breaking the latter into parts to clarify the order, relationship, or connection to other ideas; *synthesis*, which is the ability to put together different parts and create something original and new; and *evaluation*, with which one can appraise the information that has been understood and analyzed and synthesized to "decide if [one] can give or withhold belief, and whether or not to take a particular action" (McGraw-Hill, 2000).

Executives and senior administrators can take steps in pursuing critical thinking leadership. Jenkins and Cutchens (2011) studied the bridging between experiential learning in leadership and action, attempting to create new approaches to leadership education and encourage practices, which apply to critical thinking skills in leadership. The 12 action steps they found that leaders should take to lead critically are the following:

1. Being aware of situational contexts and evaluating decision implications.
2. Both asking questions and listening to the responses.
3. Understanding the variety of values, opinions, and decisions of others.
4. Using open mindedness and flexibility in decision making.
5. Being able to accept critiques from others and accepting and internalizing them.
6. Evaluating others' assumptions before challenging them.
7. Understanding processes before trying to change them.
8. Knowing followers' weaknesses and strengths and using them accordingly in their direction and empowerment.
9. Having purpose and knowing organizational values and mission when decisions are made.
10. Being involved with others by meeting them in their present state rather than for their potential.
11. Encouraging critical followers.
12. Taking informed action.

(Jenkins & Cutchens, 2011)

6. Enhancing Critical Thinking within Management Teams

Group meetings are effective means of practicing and enhancing critical thinking skills. Committees and group assignments support critical thinking by focusing on discussions by building a cohesive team seeking alternative explanations, debating, and questioning options prior to final decisions. In group and committee meetings, participants should be encouraged to become focused thinkers who relate back to the main intent of the issues, questions, or discussion. They will learn how to withhold judgment of other group members when evidence is not sufficient and are eager to seek the evidence needed. The end result is open-minded employees who consider other opinions and points of view. They will become more willing to change on a position when facts, logic, or evidence are sufficient or evident from group members. This skill would be applicable to their present and future organizations and prepare them for team work necessary toward reaching effective decisions. Organizational change takes place when a team setting environment utilizes the skills of critical thinking. Implementing the process of critical thinking, team judgment, analysis, interpretation, and inferences within a team-setting environment is crucial to successful organizational changes (Natale & Ricci, 2006, p. 272).

The International Institute of Management, KASAC, created a model for executive education (Jones, 2005). Jones (2005) indicated that success is achieved by mastering these five areas: **K**nowledge, **A**nalysis, **S**ynthesis, **A**pplication and **C**ommunication. This model is used as the basis for executive education, coaching, and the evaluation process. Among these areas emphasis is on decision-making, understanding, identifying opportunities, diagnosing, determining critical success factors, finding potential pitfalls, and evaluating criteria. Also emphasized are uncovering situation variables, designing strategy solutions, prioritizing, and communicating to stakeholders while leading. The underlying foundation is the critical thinking ability and understanding of details, analysis and recommendations, articulation of ideas, and maintaining knowledge of key industry changes.

Because critical thinkers realize the limits of being able to know all the factual information required for an opinion or decision, they are ready for developing the foundation for decision making among teams within an organization. Because critical thinking focuses on the probability of the information available, once obtained, one often produces information leading toward most appropriate reasoning for each situation based on unbiased information. Successful executives, managers, and employers are reflective thinkers, who are able to analyze, synthesize, evaluate, and conclude toward reaching a rational judgment.

Dass (1994) addressed the need to develop critical thinking as a key component of management education. Dass provided arguments for adopting the development of critical thinking as a significant objective of management education. He urged business schools to consider developing a new breed of business graduates, adept at critical thinking skills and other management skills for prospering within the changing world (Dass, 1994). Students who think critically become sensitive to diversity in culture; displaying a degree of sophistication and knowledge utilized in their verbal and written discussions. This sensitivity is often a result of developing the ability to analyze in parts a problem or concern, to focus on complex concerns, and to provide a logical and orderly process for changing opinions. Eventually management students will be able to transfer their skills to other situations to enhance the outcome of everyday decisions.

7. Critical Thinking: A Necessity in Our Virtual World

The virtual world continues to become the one of the leading sources of information to the largest percentage of the global population. It also offers a community environment where individuals are provided entertainment, social, educational, and communicational opportunities within the global digital world. Electronic media have expanded and accelerated information through the World Wide Web through sights and sounds with email, video and audio casts, conferencing, social networks, Blogs, Podcasts, and Streaming conveyed through iPads, computers, smart phones, tablets, and other hardware with new and emerging modes within the development stages. With our information explosion, critical thinking skills are more essential to cipher the informational explosion and determine what is fact or opinion.

Karr (2009) indicated that there is too much information available. Therefore, critical thinking practices are necessary for sorting through the issues at hand, recognizing the most salient data while sifting through misleading, incorrect, uninformative, or irrelevant data. Members of the organization are living in an informational world; therefore, executives, managers and employees must learn the most effective methods to incorporate critical thinking practices within their daily work environments. Executives and managers need to determine the accuracy and authority of documents, the objectivity and updates of the information presented, and the reliability and validity of the information. Although search engines have become the present day gateway to information, education will continue to be the economic engine of a society attracting those with knowledge in providing research and innovation to our world while contributing to our global economy (Ricci, 2012, p. 155).

Executives and employees must learn how to evaluate information obtained from our present global information and social media networks. Their analysis, reasoning, evaluation, and decision making activities will be more crucial than any other time in history with the continued expansion of the Internet and existing and new platform instruments, which allow everyone worldwide to seek any information through the more popular modes such as video streaming, informational clouds, and Skype. Media information will continue to expand and accelerate within the Information Age to all those who have access to global media. The thinking standards of critical thinking identified as clarity, accuracy, precision, relevance, depth, breadth, logic, and fairness will be sorely needed to evaluate the vast amount of information available daily from those involved in all cultural, social, or economical strata everywhere. Everyone will need to know how to identify if the information submitted

by those within and among all nations is accurate, reliable, valid, and supported (Foundation for Critical Thinking, 2007).

Our virtual world has influenced colleges in shifting to the emphasis of programs in critical thinking. Stanford University, for example, has developed a new approach to undergraduate education, which focuses on stressing critical thinking within the curriculum. Other general education requirements will focus on "Thinking Matters" courses (The Almanac, 2012). Many educators have heard the response from organizational leaders and are now cultivating critical thinking within educational programs in educational institutions in face-to face classes, seminars, and online classes as evidenced by many instructors, including me. In this multimedia global communication environment, future workers will need to communicate effectively in an ever expanding and rapidly growing online world as they solve complex problems in business, industry, government, education, and societies, both locally and globally.

Welsh and Dehler's (2013) on design thinking as a "hot topic" discussed how design thinking benefits organizations as a symbol of innovation. Such thinking contributes to the education of future managers by directing attention to issues of strategic advantage in reference to new markets. As indicated, critical thinking is the foundation of design thinking. Brown (2008) indicated the need for this methodology, indicating that innovation is directed by understanding, direct observation, and interpretation. A discipline that uses sensibility and is matched to strategy, policy, and outcome will result in organizations that are increased in value and opportunity. Design thinking provides an approach to differentiation and competitive advantage, is strategic, and can lead to new forms of value (Brown, 2008). The six steps in the design thinking process parallel critical thinking: Understanding, Observation, Statement, Ideating (challenging ideas and suspending judgment) Prototyping (conveying of ideas) and Testing, Evaluating, and Giving Feedback (Ratcliff, 2009).

8. Critical thinking programs changing organizational leaders

Educational Programs on critical thinking are expanding not only within universities but also in executive and programs such as the Brookings Institute. This organization provides executive education programs that introduce critical thinking to assist leaders in proactively managing organizations by conveying methods of formulating problems and methods of solving them in a structured form (Brookings Institute, 2014). Executives can direct their management teams to the extensive websites that provide supportive information on critical thinking such as Lau and Chan's (2014) Welcome to Critical Thinking website at <http://philosophy.hku.hk/think/> and the Foundation for Critical Thinking (2013) at <http://www.criticalthinking.org/pages/critical-thinking-where-to-begin/796>. Most educators believe that thinking critically is essential toward an expanding economic world, stronger democracies, acceptance of diversity, and a better quality of life for all. Individuals can engage deeply with their experiences by learning how to evaluate critically all statements and arguments; to develop or defend their beliefs; to provide a deeper understanding of the decision making process and how others decide; and to allow for open-mindedness and change. Teaching critical thinking would result in more analytical individuals who are able to identify and solve problems within the organization and within their roles as citizens in a continuously changing, or not changing social, political, and economic world.

An EDA benchmark report on Trends in Executive Development concluded the following on critical thinking: "Leaders and future leaders need to 'raise the bar' in this area, which our survey respondents identified as the number one leadership topic anticipated in the next two to three years" (Jones, 2011). Organizations that can attract and or develop critical thinkers have a competitive and comparative advantage toward successful organizational outcomes, for critical thinking is essential within organizations to enhance problem solving and decision making with clearly focused nonbiased judgment and step-by-step analysis. Education offerings are available online for workers and for organizations, indicating return on investment. They will also continue to provide the foundation for design thinking to those innovative and emerging educational programs. Stotz (2012) projected the future of executive education as focusing on what the future executive will be like. Stotz indicated that the world will belong to those who challenge, create, engage, inspire, relate, and motivate, which bring out the best in oneself and in others. These factors, I believe, identify the character of those leaders, managers, and

employees who will lead organizations toward success. The critical thinker will be able to change organizational leaders to rethink and prepare for mobility, innovation, flexibility, agility, and change, while encouraging self-empowerment and design thinking for growth and innovation in a socially networked global society.

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