

# The Use of Critical Thinking for Organizational Decisions

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#### ABSTRACT

This study aims to explore the relationship between decision-making and critical thinking, with a focus on identifying techniques and tools that can improve the quality of decision-making and the critical thinking process. The study employed a descriptive research method to achieve its objectives. Critical thinking is a crucial skill in the workplace, particularly for individuals in management positions, as it enables them to make informed decisions. The ability to think critically and use decision-making processes while making vital judgments is essential for individuals who want to make successful decisions in both their personal and professional lives. The study also highlights several fundamental critical thinking abilities and salient traits shared by both critical and non-critical thinkers. Developing critical thinking abilities is a strategy that demands resolve and dedication as a sign of respect for the profession of today's and tomorrow's executives who have a significant impact on the lives of many people with their decisions. The study recommends the use of critical thinking tools such as the Socratic method, decision-making tree, changing your lens, active listening, and the decision hygiene checklist to enhance critical thinking skills. The study suggests that future research could consider projects in different sectors and countries and involve a diverse range of practitioners at various organizational levels to further enhance the impact of this research.

**Keywords:** Critical thinking, organization, decision-making, logical thinking, reflection, brainstorming

## Introduction

When making important decisions, it is feasible to discuss a longer process of thought and evaluation even though people typically experience fast decision scenarios that do not call for extensive thought (Robbins & Coulter, 2012). Such thought processes can occasionally lead to decisions that have an impact on people, their surroundings, or a larger community. The importance of both the decision-making process and the decisions is increased by the fact that top managers typically make major strategic decisions (Drucker, 2005), which are crucial to both the present and future

conditions of the organization (Certo & Certo, 2012). Almost all professions require effective decision-making as a core skill (Freeley & Steinberg, 2009).

A 'special managerial' duty is making significant decisions. People's choices in their personal and professional lives have a direct impact on their quality of life. When critical thinking is used in decision-making, it demands the process to one of deliberate and conscious choice and makes decisions more subject to reason and logic (Paul & Elder, 2014). Job leaders who seek to increase productivity and efficiency can raise the standard

of work by, among other things, applying critical thinking.

According to Scriven and Paul (1987), critical thinking is the intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information as a guide to belief and action that is generated by observation, experience, reflection, reasoning, or communication. Metacognition, or the capacity to reflect on one's own thought processes, is another definition of critical thinking given by Trilling (2009) (Kuhn & Jr., 2004). As one of the expected outcomes of quality education, critical thinking is acknowledged by educators, legislators, administrators, and employers (Geertsen, 2013). We must discover ways to assist students in developing and utilizing their critical thinking abilities as long as critical thinking remains a desired educational result (Yilmaz, 2013). When considering the future, it is clear that critical thinking is a necessary skill for the next generation.

## **Problem Statement**

Despite the recognized importance of critical thinking in problem analysis and decision-making, there is a need to further explore its application within organizational contexts. While critical thinking is acknowledged as a valuable cognitive tool that enhances logical reasoning, analytical skills, and the ability to make informed choices, its specific impact on organizational decision-making processes and outcomes remains under-examined. Furthermore, the existing literature primarily focuses on the individual benefits of critical thinking, and there is a lack of comprehensive research that delves into its systemic application within organizational settings. Therefore, there is a need to investigate how the integration of critical thinking frameworks can contribute to more effective problem analysis and decisionmaking within organizations, ultimately leading to improved outcomes and reduced cognitive biases. This research continues to address these gaps by examining the role of critical thinking in organizational decision-making and problem analysis, with a focus on identifying practical strategies for its implementation and its potential impact on overall decision quality and organizational performance (Chandan Bhagat et ai, 2022: Mishra, 2022: Mishra, 2020a&b).

# **Research Objective**

The research objective for the paper is to investigate the relationship between decision-making and critical thinking in organizational contexts, aiming to identify techniques and tools that enhance the quality of decision-making and the critical thinking process. Additionally, the study seeks to improve decision-making and critical thinking skills to explore solutions for enhancing organizational effectiveness. The research also aims to demonstrate how critical thinking abilities can support decision-making processes and how decision-making strategies can enhance the quality of critical thinking.

# Methodology

The methodology of this study is based on a comprehensive literature review, followed by an empirical document study to explore the practice of critical thinking in decision-making. The study's nature was both descriptive and qualitative, utilizing secondary data sources such as websites, journals, and publications. A wide range of accessible literature related to decision-making and critical thinking was gathered for this study. The results were analyzed through descriptive analysis, allowing for a thorough examination of the data available. The literature review encompassed various sources, including academic papers, articles, and online resources, to provide a comprehensive understanding of the relationship between critical thinking and decision-making in organizational contexts. The empirical document study involved the analysis of existing documents and publications to gain insights into the practical application of critical thinking in decision-making processes. The study's methodology aimed to provide a robust foundation for understanding the role of critical thinking in organizational decisionmaking and problem analysis, as well as to identify practical strategies for its implementation and its potential impact on overall decision quality and organizational performance.

## **Results and Discussion**

This literature review-based study aimed to examine the relationship between critical thinking and decision-making, with a focus on understanding how critical thinking abilities can enhance decision-making processes and how decision-making strategies can improve the quality of critical thinking.

# **Understanding and Intelligence for Critical Thinking**

What do we think? How do you think? Who is able to think critically? And can we think critically? Have we ever asked ourselves the questions mentioned above? If so, everything is ok. Cohen (2009) states that intelligence and critical thinking are seen to go hand in hand. A person is said to be intelligent if they are exceptionally capable of solving complex problems with only their brains.

The word "critical" has the etymological meaning of "to analyze or divide." The Greek word "Kriterion," which means "a standard for judging," is also related to it (Cohen, 2009). Thus, etymologically speaking, critical thinking can be described as deliberate mental activities that focus developing standards-based cognitive awareness of the thought process. However, thinking well requires effort. Clear and deliberate thought requires effort, determination, and training. Thinking critically is carefully reasoning with clarity, depth, precision, accuracy, and logic.

According to Fisher (2012) critical thinking is frequently referred to as "critic-creative" thinking. The first is that critical thinking is frequently viewed as "negative," as if one's primary motivation is to rigorously criticize the claims and theories of others. In other words, according to Bassham et al. (2007), critical thinking is "negative and critical." The second reason is that having strong critical thinking skills often requires us to think creatively and creatively about other possibilities, alternate viewpoints, and alternative solutions.

Critical thinking refers to people evaluating an issue critically and coming up with a workable solution, which is not always inspired by intelligence (Alkhatib, 2019). A critical thinker might not have access to such information right once and will need to carefully examine the situation and take some time to come up with a solution. Both elements may be crucial in assisting someone in finding a workable solution to the issue at hand; the methods used to get there may be different. For instance, when faced with identical issues, a smart individual might reflect for a little period of time and come up with a solution. A critical thinker, on the other hand, might have encountered a similar issue in the past and will right away implement a predetermined preparation (Ennis, 2018).

John Dewey is widely regarded as having developed the first concepts of critical thinking (Alkhatib, 2019). In his writing, Dewey referred to reflective thinking as critical thinking and defined it as an active, ongoing, and careful assessment of any belief form of knowledge in light of the premises that sustain it and the subsequent conclusions that it tends to lead to (Dewey, 1910).

Moore (1967) states the ideas and possibilities generated by creative thinking should be put to the test and evaluated by critical thinking. Moore also considered critical thinking as a component of successful thinking and decision-making. Similarly, Lohani et al. (2009) argues that thinking is "a deliberate purposeful mental process." According to Royalty (1995), critical thinking is the capacity and nature to engage in reflective doubt. Matthews and Lally, (2010) asserted that critical thinking cannot be taught as a standalone subject because it is not a reality in and of itself. He claims that the concept of critical thinking is unique to an area or subject. In his report on the American Philosophical Society's study of critical thinking, Facione (1990) listed the qualities of the critical thinker as being: i) curious; ii) well-informed; iii) trustful of reason; iv) open-minded; v) flexible; vi) fair-minded in evaluation; vii) honest in facing personal biases; and viii) willing to reconsider. A well-educated critical thinker, according to Paul & Elder (2003), would be able to formulate clearly and accurately by posing significant questions and problems, gather and evaluate the necessary data, use abstract concepts to interpret it effectively, come to well-considered conclusions and solutions by examining them in light of relevant criteria and standards, and effectively interact with others to find solutions to complex problems.

Numerous experts studying the topic agree that critical thinking is a crucial thought process that can improve people's lives. It would be appropriate to identify and remove the true sources of several decision barriers in order to enhance the quality of executive decisions (Ozgenel, 2018). Due to the person's past knowledge and experience, inventive, conflicting thinking can result in a variety of ideas in this situation. The critical thinking process now takes control, and one must assess the usefulness and applicability of these concepts through the lenses of reason and logic. Since critical thinking is based on the open-minded and flexible features of creative thinking, it may be claimed that innovative thinking is based on the evaluation component of critical thinking (Ozgenel, 2018).

## **Oualities of an Effective Critical Thinker**

The characteristics of critical thinkers, as identified by Bassham et al. (2007), include a passionate drive for clarity, correctness, accuracy, carefulness, discipline, sensitivity, rational belief, honesty, intellectual humbleness, open-mindedness, intellectual courage, love of truth, intellectual determination, and control of one's mental activities. According to Paul & Elder (2014), critical thinking involves developing strong arguments, examining claims, protecting the facts, evaluating, and implementing solutions. Moore (1967) and Tittle (2011) identified several criteria for critical thinking, including clarity, precision, accuracy, relevance, consistency, completeness, and fairness. Critical thinkers are also characterized by their skepticism, open-mindedness, value for fairmindedness, respect for evidence and reasoning, respect for clarity and precision, consideration of different points of view, and willingness to change positions when reason leads them to do so (UTC, 2023). Critical thinking is a crucial skill that involves thinking clearly and rationally, making logical connections between ideas, and constantly upgrading knowledge through independent selflearning (Central Test, 2023). Critical thinking is a disciplined manner of thought that allows individuals to assess the validity of news stories, arguments, and research, and make reasoned judgments (Beyer, 1995). It is a way of reasoning efficiently and consciously about the world around us, and it involves using criteria to judge the quality of something, from cooking to the conclusion of a research paper (Beyer, 1995). Critical thinking is a vital skill for navigating an ever-evolving world, and it involves making reasoned judgments and solving complex problems (Entrepreneur, 2018).

# The Critical Thinking Techniques and Tools

When making decisions effectively, a critical thinker employs the following procedures and techniques, according to Lohani (2009): i) creating the issue or problem for critical examination, ii) compiling materials for critical analysis, iii) putting the data through a rigorous analysis and iv) argumentation and communication for decisionmaking. A critical thinker typically uses the critical thinking methodology described above to identify the issue, gather data or information for critical analysis, process and analyze the data or information, produce decision alternatives, choose the best alternative and present it to others with well-supported arguments, seek early approval, and implement the solution. Therefore, Critical thinking needs required tools and a technique for employing those tools, just like arithmetic, language, or science (Ennis, 1991).

The most crucial tools in the critical thinking toolkit questions must be used by the critical thinker to evaluate both facts and conclusions (Cohen, 2009). We must consider the facts or data we have gathered in order to think intelligently. 'Is it significant?' 'Is it important?' 'Is it relevant?' 'Is it applicable?' 'Is it relevant?' but that's not enough. We must also question the inferences we have made based on the data we have gathered. The following types of inquiries are necessary:

"Is the conclusion fair? ", "Is it logical? ", "Is it reasonable?" etc. and "Does it harmony with all the data gathered?" For various activities, there are several kinds of questions or critical thinking tools. There are resources for gathering information, assessing information, coming to a conclusion, and reviewing the conclusion (Ennis, 1991; Cohen 2009).

Critical thinking is an important skill for navigating the complex and ever-changing world. According to Central Test (2023), critical thinking is a form of judgement that relies on logical reasoning. It draws on adaptability, open-mindedness, intellectual humility, and self-confidence. Critical thinking is a disciplined manner of thought that a person uses to assess the validity of news stories, arguments, research, etc. Critical thinking involves identifying, evaluating, and constructing arguments. Critical thinkers are skeptical, open-minded, value fairmindedness, respect evidence and reasoning, respect clarity and precision, look at different points of view, and will change positions when reason leads them to do so (UTC, n.d.). Critical thinking is a mode of thinking that improves the quality of one's thinking by skillfully assessing and reconstructing it (Global Knowledge Training LLC, 2016).

## **Decision-Making**

The process of making decisions is a complex mental exercise that involves considering the past, present, and future. According to Pandya (2011), the "past" refers to the time when the issue first emerged, data was collected, and the need for a decision was identified. Alternatives are considered in the present, and a decision is made. Future decisions are then put into action and evaluated.

Daft (2008) defines a decision as a selection from available options. Decision-making involves recognizing issues and possibilities, and then developing solutions. Drucker (2005) emphasizes that decisions are judgments and rarely involve a choice between right and wrong. Instead, the decision-maker must choose the option that comes closest to the truth. The ability to draw this distinction is determined by the manager's capacity for critical thought.

The decision-making process is a fundamental aspect of modern administration, both within and outside educational institutions. It is a manager's primary responsibility and the foundation of planning. According to Drucker (2005), an effective decision-making process involves seven steps: determining that a choice is required, classifying the issue, identifying the problem, determining what is right, obtaining support from others, implementing the decision, and evaluating the decision in light of actual results.

Harrison (1999) outlines a rational decision-making model consisting of six steps: identifying the issue, specifying decision criteria, giving the criteria weights, creating potential solutions, considering all available options, and selecting the best alternative. However, the rational decision-making model is based on the premise that the decision-maker has full knowledge, can objectively identify all relevant possibilities, and selects the options with the greatest utility (March, 1994).

The decision-making process is influenced by a variety of factors, including intuition, emotions, and biases. While the human mind is unable to solve complex issues with full rationality, rational analysis and intuition can work in harmony rather than in antagonism to one another (Simon, 1997). Therefore, making decisions can be significantly influenced by intuition.

The decision-making process is a multifaceted and dynamic activity that requires a combination of rational analysis, intuition, and critical thinking. By understanding the various components and influences of the decision-making process, individuals can make more informed and effective decisions.

# Critical Thinking's Significance in Decision-Making

Critical thinking plays a significant role in organizational decision-making, and its importance cannot be overstated. Here are some of the major significance of critical thinking in organizational decision-making:

In the new knowledge economy, critical thinking is

crucial. It allows individuals to go beyond intuition and emotion to make well-informed decisions based on facts and evidence.

It supports the culture of issue research, analysis, and decision-making grounded in evidence. This is essential for making sound and rational decisions that are based on objective information.

Through fact-based conversation, it improves in harmonizing interpersonal and intuitive communications. This is crucial for effective communication and collaboration within organizations.

It helps to encourage intercultural dialogue. By fostering open-mindedness and a willingness to consider diverse perspectives, critical thinking supports intercultural dialogue and understanding.

It more formally fosters the development of active observation, analysis, listening, speaking, and argumentation abilities. These skills are essential for effective communication and problem-solving within organizations (Business Data List., 2023).

It enables a leader to understand the situation, discuss solutions, consider the options, and take decisive action. This is crucial for effective leadership and decision-making within organizations.

It improves communication and presentation abilities. Effective communication is essential for conveying ideas, discussing solutions, and gaining support for decisions within organizations.

It encourages innovation in decision-making. By fostering creativity and open-mindedness, critical thinking supports innovative and forward-thinking decision-making.

It supports the use of evidence when making decisions. This is essential for ensuring that decisions are based on objective information and are likely to lead to positive outcomes (KCG).

In the significance of critical thinking in organizational decision-making cannot be overstated. It is a fundamental skill that supports effective communication, problem-solving, and decision-making within organizations. By

fostering open-mindedness, creativity, and a willingness to consider diverse perspectives, critical thinking supports innovative and forward-thinking decision-making. It is an essential skill for leaders and decision-makers within organizations, and its importance will only continue to grow in the future

# A Rapport between Decision-Making and Critical Thinking

When managers are faced with a decision, it typically represents a threat or an opportunity (Daft & Marcic, 2009). The first step in such situations is for management to become aware of the threat or opportunity. Knowledge is the most important requirement for identifying a threat or opportunity situation. Managers can obtain the information they need formally by speaking with other managers, staff members, or internal and external stakeholders of the entity, as well as from printed sources like financial reports, performance reports, or reports on activities undertaken within the organization (Daft & Marcic, 2009).

A critical thinking manager must evaluate the circumstance or opportunity they come across when defining the problem, which is another step in the decision-making process. The easiest method to achieve this is to explain the issue by asking questions that will help define risks and possibilities. According to Kepner and Tregoe (1965), a sequence of questions must be asked in order to better describe the issue and identify its root causes: (i) how is the situation affecting us; (ii) when; (iii) where; (iv) how did it happen; and (v) urgency of the issue; and (vi does the situation have any connections to other circumstances. Nutt (2004) highlights that by analyzing the issue from several angles, a critical thinker should be able to offer potential other solutions. Additionally, managers who take a critical stance need to be aware of the necessity of using creative problemsolving methods.

Fisher (2011) asserts that when making judgments, moral and ethical ramifications should be taken into account. To ensure that the chosen option is

carried out, managers must use their management, administrative, and influence abilities during the decision-making process in the organization. Negotiations with those who may be impacted by the decision may be necessary before the decision is implemented. To ensure that the decision is carried out, leadership, communication, and motivational techniques should be used. When workers observe managers implementing decisions by doing so, they are more motivated to take positive action. Ennis (2015) states that managers should monitor the decision's execution, assess its potential positive and negative effects, and determine whether the goals they set throughout the decisionmaking process have been met. In any event, clear judgments can be examined critically to determine the causes of their creation and to find out whether there is a fix that can get clear of the issue.

The brainstorming method, first introduced by Alex Osborn, is a helpful approach for group problemsolving, but it can also be utilized alone (Halpern, 2014). According to Ghabanchi and Behrooznia (2014), Osborn defined brainstorming as a structured method for allowing the mind to generate ideas without attempting to assess their merit. One of the key features of this method is that the group members are chosen not at random but rather from individuals who have in-depth knowledge of the relevant subject (Jacob et al., 2018). Individuals can avoid mistakes and make better decisions by using critical thinking techniques.

### Conclusion

The significance of critical thinking in the decision-making process cannot be overstated. Critical thinking is a fundamental aspect of problem-solving and decision-making, as it involves methodically gathering, analyzing, and evaluating information to inform confidence and behavior. It is the act of clearly thinking through options that will lead to a final choice, and it is a vital part of the problem-solving and decision-making process. Critical thinking is a structured method for allowing the mind to generate ideas without attempting to assess their merit, and it is a powerful cognitive tool that

empowers individuals to navigate the decisionmaking process by fostering logical reasoning, analytical skills, and an open mindset. It enables individuals to overcome cognitive biases, evaluate information effectively, and make informed choices. Critical thinking enhances decisionmaking, problem-solving, and communication abilities by fostering logical reasoning, analytical skills, and an open mindset. It enables individuals to make logical and well-reasoned decisions based on evidence and objective. It encourages the consideration of all relevant factors and the evaluation of potential consequences leading to more informed choices. Effective Problem-Solving Critical thinking facilitates the identification of underlying issues, the generation of innovative solutions, and the evaluation of their viability. It encourages individuals to approach problems from different angles and consider various increasing the likelihood of finding effective resolutions. Reduction Of Cognitive Biases... critical thinking empowers individuals to analyze problems, devise creative solutions, and make informed judgments. In everyday life, it helps individuals navigate an increasingly complex world by making sound choices and avoiding It is our primary defense against misleading or "spun" information. Benefits Of Critical Thinking There are many benefits of critical thinking. Enhanced.

### References

Alkhatib, O. J. (2019). A framework for implementing higher-order thinking skills (Problem-solving, critical thinking, creative thinking, and decision-making) in Engineering & Humanities. Advances in Science and Engineering Technology International Conferences (ASET), 2019, United Arab Emirates University.

Bassham, G. et al. (2007). *Critical thinking: A student's introduction*. New Delhi: Tata McGraw Hill.

Bazerman, M. (1994). *Judgment in managerial decision-making*. New York: Wiley.

- Business Data List. (2023, September 19).

  Importance Of Critical Thinking In Decision

  Making.https://businessdatalist.com/
  importance-of-critical-thinking-in-decisionmaking/
- Certo, S. C., & Certo, S. T. (2012). *Modern management*. New Jersey: Prentice Hall.
- Chandan Bhagat, A. K. Mishra, & Aithal P. S. (2022). Model for Implementation of e-Government Services in Developing Countries like Nepal. *International Journal of Case Studies in Business, IT and Education (IJCSBE)*, 6(2), 320–333. https://doi.org/10.47992/IJCSBE.2581.6942.0199
- Cohen, E. D. (2009). *Critical thinking unleashed*. New York: Rowman & Littlefield Publishers, Inc.
- Daft, R. L. (2008). *Management*. Mason, OH: South-Western Cengage Learning.
- Daft, R. L., & Marcic, D. (2009). *Understanding management*. Mason, OH: South-Western Cengage Learning.
- Dewey, J. (1910). *How we think*. New York: D. C. Health & Co., Publishers. 07 04, 2019 tarihinde http://www.gutenberg.org/files/37423/37423-h/37423-h.htm.
- Drucker, P. F. (2005). *Management*. New York: Harper Collins.
- Ennis, R. H. (2015). Critical thinking: A streamlined conception. M. Davies, & R. Barnett cinder, *The Palgrave Handbook of Critical Thinking in Higher* (31-48). New York: Palgrave Macmillan.
- Ennis, R. H. (2018). Critical thinking across the curriculum: A vision. *Topoi*, 165-184.
- Ennis, R.H. (1991). Critical thinking: A streamlined conception. *Saddle River*, NJ: Prentice Hall.
- Facione, P. A. (1990). Critical thinking: A statement of expert consensus for purposes of educational assessment and instruction. *Research Findings and Recommendations*. Newark: American Philosophical Association.
- Fisher, A. (2011). *Critical thinking an introduction*. Exeter: Cambridge University Press.

- Fisher, A. (2012). *Critical thinking*. New Delhi: Cambridge University Press.
- Freeley, A. J. & Steinberg, D. L. (2009).

  \*Argumentation and debate. Boston: Wadsworth Cengage Learnin.
- Geertsen, R. (2013). Barriers to critical thinking across domains. *Review of Management*, 52-60.
- Ghabanchi, Z., & Behrooznia, S. (2014). The Impact of Brainstorming on Reading Comprehension and Critical thanking Ability of EFL Learners. *Procedia-Social and Behavioural Sciences*, 98:513-521
- Halpern, D. F. (2014). *Thought and knowledge: An introduction to critical thinking*. New York: Psychology Press.
- Jacob, E., Duffield, C., & Duffield, C. (2018). Development of an Australian nursing critical thinking tool using a Delphi process. *Journal* of Advanced Nursing, 74, 2241-2247.
- KCG. (n.d.). The Power of Critical Thinking Skills in Organizational Success. https://www.kcg.com.sg/the-power-of-critical-thinking-skills-in-organizational-success/
- Kepner, C. H., & Tregoe, B. B. (1965). *The rational manager*. New York: McGraw-Hill.
- Kuhn, D., & Jr., D. D. (2004). Metacognition: A bridge between cognitive psychology and educational practice. *Theory Into Practice*, 268-273.
- Lohani, S. et al. (2009). *Critical and creative thinking*. Kathmandu: Educational Enterprise Pvt. Ltd.
- March, J.G. (1994). *A primer on decision-making*. New York: The Free Press.
- Matthews, R., & Lally, J. (2010). The thinking teacher's toolkit critical thinking, thinking skills and global perspectives. London: Continuum International Publishing Group.
- Mishra, A.K. (2020). Global Contract Administration. Tamilnadu: *DK International Research Foundation*. http://doi.org/10.5281/ zenodo.4817527 ISBN: 978-81-945468-3-2

- Mishra, A.K. (2020). Project Management: Theory and Practice from Different Countries. Tamilnadu: DK International Research Foundation. http://doi.org/10.5281/zenodo.4817542 ISBN: 978-81-945468-4-9
- Mishra, A.K. (2022). A Reference Book on Comparative Assessment from the Eastern Approach. Intellectual's Book Palace. https://doi.org/10.5281/zenodo.6323461
- Moore, W. E. (1967). *Creative and critical thinking*. Boston: Houghton Mifflin Company.
- Ozgenel, M. (2018). Modeling the relationships between school administrators' creative and critical thinking dispositions with decision making styles and problem solving skills. Educational Sciences: *Theory & Practice*, 18, 673-700.
- Pandya, S. R. (2011). *Administration and management of education*. Mumbai: Himalaya Publishing House Pvt.
- Paul, R., & Elder, L. (2003). *The miniature guide to critical thinking concepts and tools*. Dillon Beach: Foundation for Critical Thinking.
- Paul, R., & Elder, L. (2014). Critical thinking: Tools for taking charge of your professional and personal life. New Jersey: Pearson Education.
- Robbins, J. S. (2009). *Organizational behavior* (Eds.). India: Dorling Kindersley.

- Robbins, S. P., & Coulter, M. (2012). *Management*. New Jersey: Prentice Hall.
- Royalty, J. (1995). The generalizability of critical thinking: Paranormal beliefs versus statistical reasoning. *The Journal of Genetic Psychology*, 477-488.
- Scriven, M., & Paul, R. (1987). Library: About Critical Thinking. 11 13, 2014 tarihinde The Critical Thinking Community: http://www.criticalthinking.org/pages/defining-criticalthinking/766.
- Simon, H. A. (1986). Rationality in psychology and economics. *Journal of Business, October*, 1986, pp 209-224.
- Simon, H. A. (1997). *Administrative behavior*. New York: The Free Press.
- Tittle, P. (2011). *Critical thinking : an appeal to reason*. New York: Routledge.
- Trilling, B., & Fadel, C. (2009). 21st Century Skills: Learning for Life in Our Times. San Francisco: Jossey-Bass.
- Yilmaz, S. (2013). Elestirel Dusuncenin Ogretilmesi: Universite Ogrencilerinin Eleştirel Bir Dusunurde Bulunması Gereken Meziyetleri Gelismelerine Yardımcı Olacak Hususlar. *Tarih Kültür ve Sanat Arastırmaları Dergisi*, 2(1), 414-420.

