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NPTEL ONLINE
CERTIFICATION COURSE

LEADERSHIP AND TEAM EFFECTIVENESS

LECTURE - 16

Intelligence and Leadership

PROF. SANTOSH RANGNEKAR

DEPARTMENT OF MANAGEMENT STUDIES



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INTELLIGENCE & CREATIVITY



Image Source: <https://smartboost.com/blog/creativity-and-intelligence/>

Making the simple complicated is commonplace; making the complicated simple, awesomely simple, that's creativity.

Charles Mingus,
jazz bassist and composer

What is Intelligence?

- Intelligence is a person's all around effectiveness in activities directed by thought. Intelligent leaders:
 - ☐ Are faster learners.
 - ☐ Make better assumptions, deductions, and inferences.
 - ☐ Are better at creating a compelling vision and strategizing to make their vision a reality.
 - ☐ Can develop better solutions to problems.
 - ☐ Can see more of the primary and secondary implications of their decisions.
 - ☐ Are quicker on their feet than leaders who are less intelligent.
 - ☐ Intelligence is relatively difficult to change because of heredity but can be modified with education and experience.



Define Intelligence?

Author Name	Year	Definition
Robert Sternberg	1977	"Defined Intelligence as "the mental abilities necessary for adaptation to, as well as shaping and selection of, any environmental context.
H. Gardner	1993	"An intelligence is the ability to solve problems, or to create products, that are valued within one or more cultural settings."
F. N. Freeman	2000	"Sensory capacity, capacity for perceptual recognition, quickness, range or flexibility or association, facility and imagination, span of attention, quickness or alertness in response."

Intelligence is not a fixed quantity

- Intelligence is relatively difficult to change. Like personality, it is also an unseen quality and can be inferred only by observing behavior.
- Intelligence is not a fixed quantity. Although heredity plays a role, intelligence can be modified through education and experience.

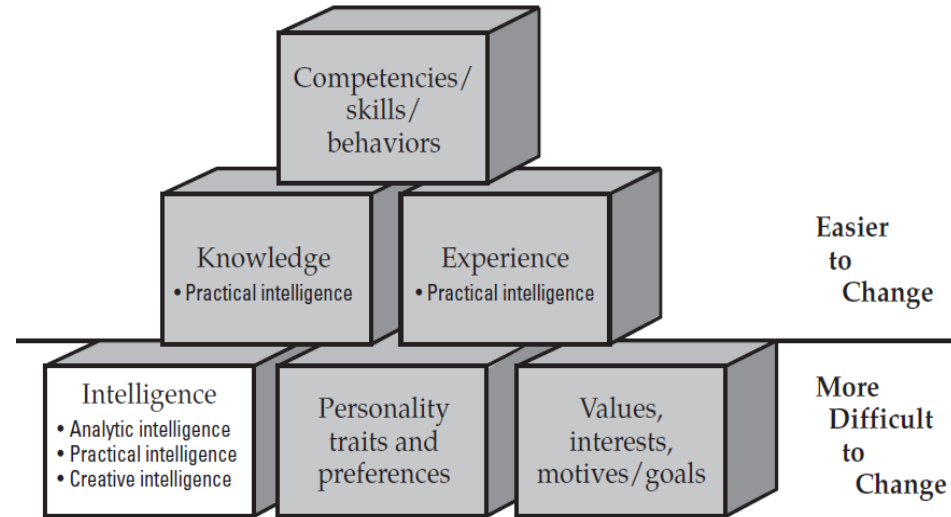
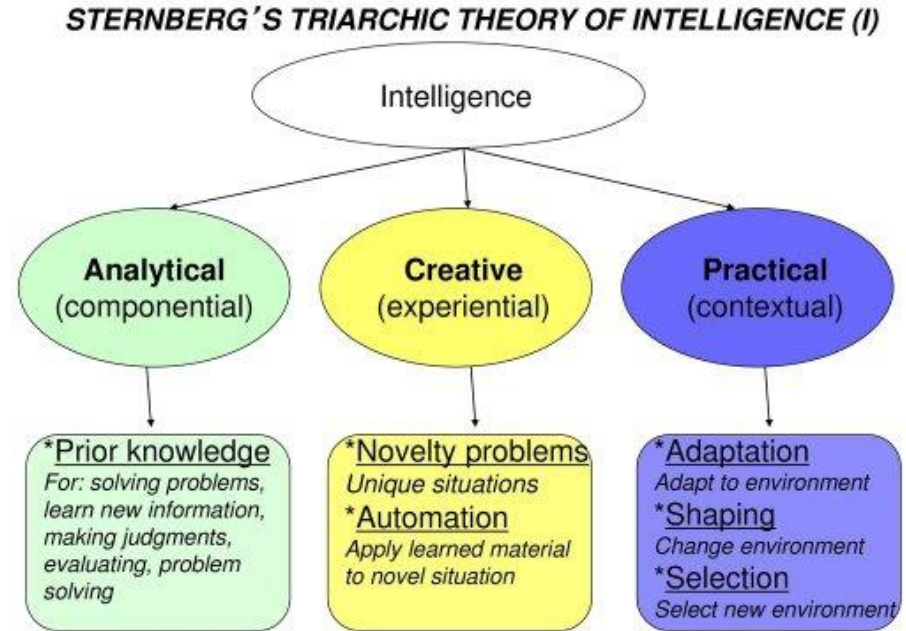


Image Source: (Hughes, Ginnett, & Curphy, 2015)

Sternberg's Triarchic Theory of Intelligence

Sternberg proposed his theory in 1985 as an alternative to the idea of the general intelligence factor. He believes that the ability to function effectively in the real world is an important indicator of intelligence. Sternberg broke his theory down into the following three sub theories.



Source:- <https://www.quora.com/What-are-the-elements-of-triarchic-theory-of-intelligence>

Componential subtheory:

- The componential theory outlines the various mechanisms that result in intelligence. According to Sternberg, this subtheory is comprised of three kinds of mental processes or components:
- **Metacomponents** enable us to monitor, control, and evaluate our mental processing, so that we can make decisions, solve problems, and create plans.
- **Performance components** are what enable us to take action on the plans and decisions arrived at by the metacomponents.
- **Knowledge-acquisition components** enable us to learn new information that will help us carry out our plans.

Contextual subtheory

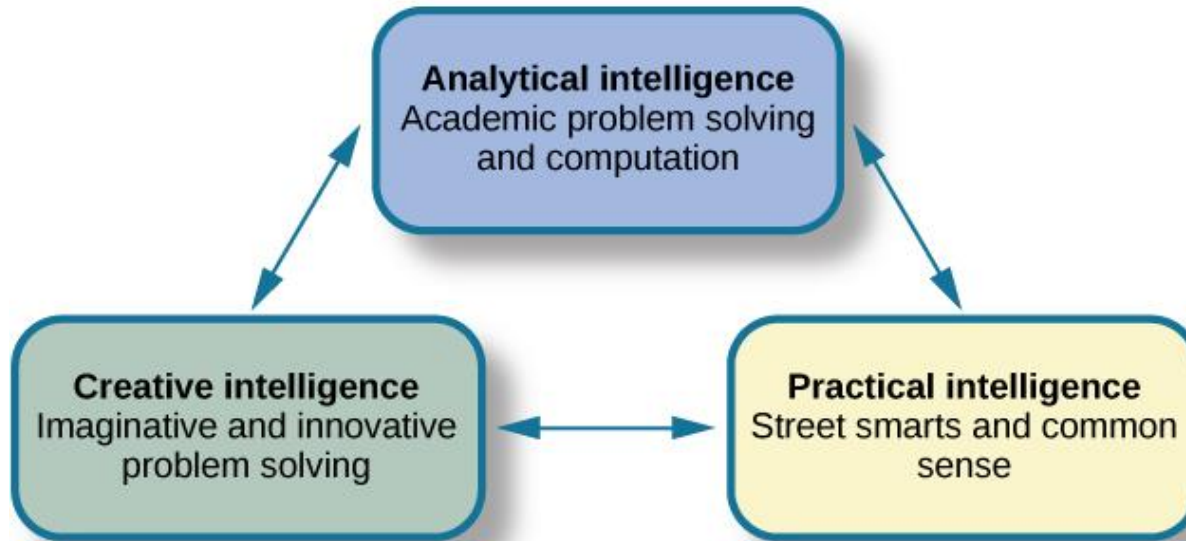
- The contextual subtheory says that intelligence is intertwined with the individual's environment. This subtheory is comprised of three kinds of components:
- **ADAPTATION** – Occurs when one makes a change within oneself in order to better adjust to one's surroundings.
- **SHAPING** – Occurring when one's changes their environment to better suit one's needs.
- **SELECTION** – Replace the previous, unsatisfying undertaken when a completely new alternate environment is found to meet individual's goals.

Experiential subtheory:

- The experiential subtheory proposes that there is a continuum of experience from **novel to automation** to which intelligence can be applied. It's at the extremes of this continuum that intelligence is best demonstrated.
- **At the novel end of the spectrum**, an individual is confronted with an unfamiliar task or situation and must come up with a way to deal with it.
- **At the automation end of the spectrum**, one has become familiar with a given task or situation and can now handle it with minimal thought.

Kinds of Intelligence

Each subtheory reflects a particular kind of intelligence or ability:



Source:- <https://courses.lumenlearning.com/suny-fmcc-intropsych/chapter/what-are-intelligence-and-creativity/>

Kinds of Intelligence

- **Practical intelligence:** Sternberg called one's ability to successfully interact with the everyday world practical intelligence. Practical intelligence is related to the **contextual subtheory**. Practically intelligent people are especially adept at behaving in successful ways in their external environment.
- **Creative intelligence:** The **experiential subtheory** is related to creative intelligence, which is one's ability to use existing knowledge to create new ways to handle new problems or cope in new situations.
- **Analytical intelligence:** The **componential subtheory** is related to analytical intelligence, which is essentially academic intelligence. Analytical intelligence is used to solve problems and is the kind of intelligence that is measured by a standard IQ test

Implications of the Triarchic Theory of Intelligence

- Leadership effectiveness or emergence is positively correlated with analytic intelligence.
- Sometimes, personality is much more predictive of leadership emergence and effectiveness than analytic intelligence.
- Leader's primary role is to build an environment where others can be creative.
- The Triarchic theory of intelligence focuses on what a leader does when solving complex mental problems.
- Emphasizes how 3 types of abilities work together to create intelligent behavior.

Divergent Thinking

- Divergent thinking is defined as producing a diverse assortment of appropriate responses to an open-ended question or task in which the product is not completely determined by the information.
- So, divergent thinking concentrates on generating a large number of alternative responses including original, unexpected, or unusual ideas. Thus, divergent thinking is associated with creativity.

Using Your Imagination



(More Creative)

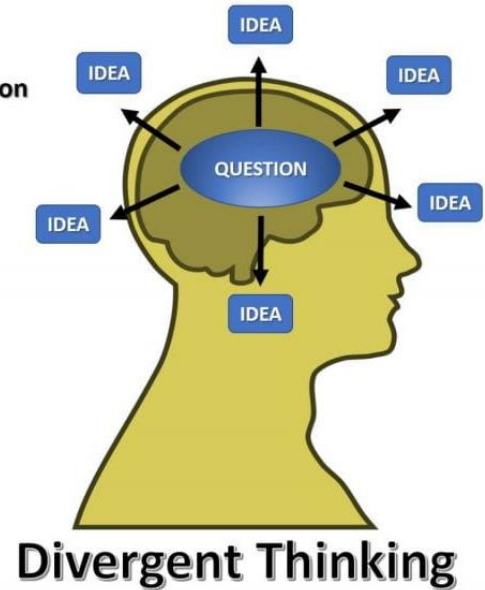


Image Source: <https://thinkwellcenter.edublogs.org/files/2019/08/Divergent-Thinking-Person-1024x615.jpg>

Convergent Thinking

- Convergent thinking involves finding only the single correct answer, conventional to a well-defined problem. Many facts or ideas are examined while convergent thinking for their logical validity or in which a set of rules is followed.
- Convergent thinking focuses on reaching a problem solution through the recognition and expression of preestablished criteria. Standard intelligence tests are similarly believed to measure convergent thinking.

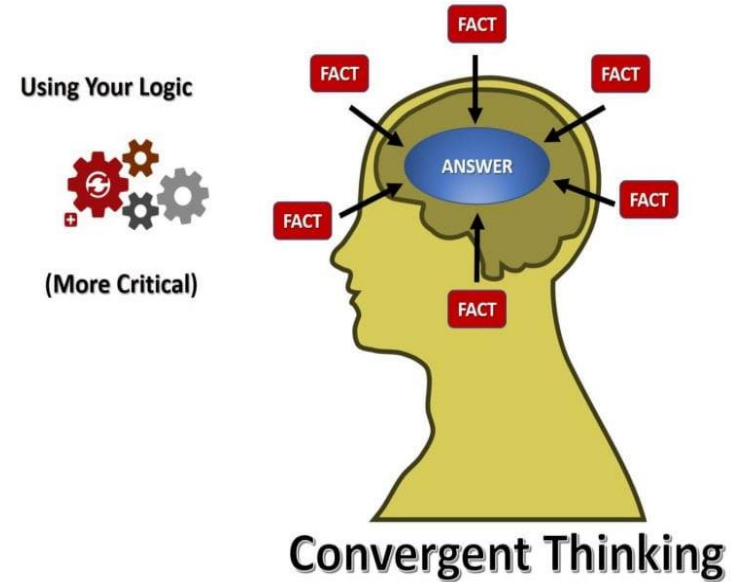


Image Source: <https://thinkwellcenter.edublogs.org/files/2019/08/Convergent-Thinking-Person-1024x615.jpg>

Creativity Killers

The following is a list of things leaders can do if they wish to stifle the creativity of their followers.

- **Take away all discretion and autonomy:** People like to have some sense of control over their work. Micromanaging staff will help to either create yeasayers or cause people to mentally disengage from work.
- **Create fragmented work schedules:** Repeated interruptions or scheduling “novel solution generation time” in 15-minute increments around other meetings will disrupt people’s ability to be innovative.
- **Provide insufficient resources:** People need proper data, equipment, and money to be creative. Cut these off, and watch creativity go down the tubes.



Creativity Killers (Cont.)

- **Focus on short-term goals:** People can be creative and funny if given enough time, but focusing on only short-term outcomes will dampen creativity.
- **Create tight timelines and rigid processes:** The tighter the deadlines and less flexible the processes, the more chance that innovation will be reduced.
- **Discourage collaboration and coordination:** The best ideas often come from teams having members with different work experiences and functional backgrounds. By discouraging cross-functional collaboration, leaders can help guarantee that team members will offer up only tried-and-true solutions to problems.

Improving Organizational Creativity

- Leaders should be mindful that:
 - Various sort of incentives or rewards can have various effects on creativity.
 - Synthetic abilities can be hindered if ideas will be evaluated.
 - In order to develop new products and services, the level of turnover should be low, and goals should be clear.
 - Leaders need to provide enough room for creativity to flourish, but enough direction for effort to be focused as well.
 - **Creeping elegance** which refers to the tendency of a design project or product cycle to accumulate more and more features or details, rather than to be completed and released at a more basic level. Also fails to meet customer needs. It should be avoided.

Cognitive Resources Theory: Intelligence and Stress

- The Cognitive resource theory is a reinvention of Fiedler contingency theory and concept was given by Fred Fiedler and Joe Garcia in 1987.
- Cognitive Resources Theory is a conceptual scheme for explaining how leader behavior changes under stress levels to impact group performance.
- This theory relates to a leader's intelligence and experience with his/her reaction to stressful situations. Like in a more stressful situation one can react without thinking logically. It clears how a leader's intelligence and experience influence the way he/she may react to stress.
- Cognitive Resource Theory consists of several key concepts; i.e. intelligence, stress, experience, and task-knowledge.

Cognitive Resources Theory: Intelligence and Stress

Theory is based on the following assumptions:

- The success of a leader depends on certain factors like Intelligence, experience, and other cognitive means.
- Leadership success is not based on cognitive capabilities only.
- Stress affects decision-making ability.

Theory predictions include:

- Greater experience but lower intelligence may account for higher-performing groups in high stress conditions.
- High levels of experience may account for usage of old solutions when creative solutions are more apt.

Characteristics of Cognitive Resources Theory

- The theory helps predict whether a certain type of person will be able to lead in a stressful situation.
- The theory helps the placement of persons in leadership positions by suggesting that people be tested for intelligence and the ability to manage stress in addition to assessing leadership qualities.
- It differentiates the abilities of a skilled labour from an experienced labour and indicates how they are useful.
- The Cognitive Resource Theory helps in understanding the role of intellectual abilities and organizational performances in solving tasks.

Intelligence and Stress: Cognitive Resources Theory

Limitations of CRT:

- Cognitive resource theory does not talk about those leaders who have both, a good IQ and a good work experience.
- Intelligence is not defined. There are many types and degrees of intelligence and the Cognitive Resource Theory doesn't account for them.

Leadership implications of CRT:

- The best leaders are often smart and experienced.
- Leaders may be unaware of the degree to which they are causing stress in their followers.
- The level of stress inherent in the position needs to be understood before selection of leaders.

Case Study: Innovation in emerging economy

- For the past 100-plus years the Western Hemisphere has been the center of innovation and creativity. Many of the modern conveniences to which we have become accustomed were invented in the United States or Europe. But will the West remain the center of innovation?
- This is an important question: studies show that future job and economic growth will come from information-or knowledge-based work rather than manufacturing-based work. North America may lead the world in research spending, but globalization and information technology are helping other parts of the world to catch up.
- The emerging economies of Brazil, Russia, India, and China (BRIC) are graduating millions of scientists and engineers each year, and their economies are becoming robust enough to generate strong domestic bases for new products.



Case Study (Cont.)

- Clever ideas can be found anywhere, and technology is helping to make these ideas into products. The expanding middle class of the BRIC countries is giving more people the income needed to purchase new products. With the number of scientists and engineers graduating from the BRIC countries and their rapidly expanding economies, it may only be a matter of time before the West is no longer the center of innovation.

Questions

- Does analytical and creative intelligence of individual play dominant role in make of center of innovation?
- What do you think are the implications of these trends for leaders in the West or the BRIC countries?

Research Paper

Journal of Applied Psychology
2004, Vol. 89, No. 3, 542–552

Intelligence and Leadership: A Quantitative Review and Test of Theoretical Propositions

Timothy A. Judge
University of Florida

Amy E. Colbert
University of Iowa

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0021-9010/04/\$12.00 DOI: 10.1037/0021-9010.89.3.542

Remus Ilies
University of Florida

Purpose

- The purpose of this study was to provide a quantitative review of the intelligence–leadership literature that (a) distinguishes between different measures of leadership outcomes, including perceptual measures of leader emergence and effectiveness and objective measures of leadership effectiveness; (b) distinguishes perceptual from paper-and-pencil measures of intelligence; and (c) tests propositions from two relevant leadership theories: implicit leadership theory and cognitive resource theory.



Design and Methodology

- Meta-analysis was used to aggregate results from studies examining the relationship between intelligence and leadership. One hundred fifty-one independent samples in 96 sources met the criteria for inclusion in the meta-analysis.

Findings

- Intelligence correlated equally well with objective and perceptual measures of leadership. Additionally, the leader's stress level and the leader's directiveness moderated the intelligence–leadership relationship. Overall, results suggest that the relationship between intelligence and leadership is considerably lower than previously thought. The results also provide meta-analytic support for both implicit leadership theory and cognitive resource theory.

Implications

- Authors found that several traits had stronger correlations with leadership than intelligence and that, overall, the Big Five had a multiple correlation of .48 with leadership. It is true that these validities are higher than those for cognitive ability, suggesting that selecting leaders on the basis of personality appears to be relatively more important. However, though the overall relationship between intelligence and leadership may be modest, in selecting individuals, even moderate validities can have substantial practical implications.
- Moreover, on the basis of cognitive resource theory, it is more important to select or place intelligent individuals in leadership positions when the stress level is low, and the leader has the ability to be directive. In such cases, the validity of intelligence may be substantial.

BOOK RECOMMENDATION

Intelligent Leadership: What You Need to Know to Unlock Your Full Potential

Publisher: Amacom; edition (16 May 2018)

Authors: John Mattone

Language: ENGLISH

Paperback: 256 Pages

ISBN: 0814439373

ISBN-13 : 978-0814439371

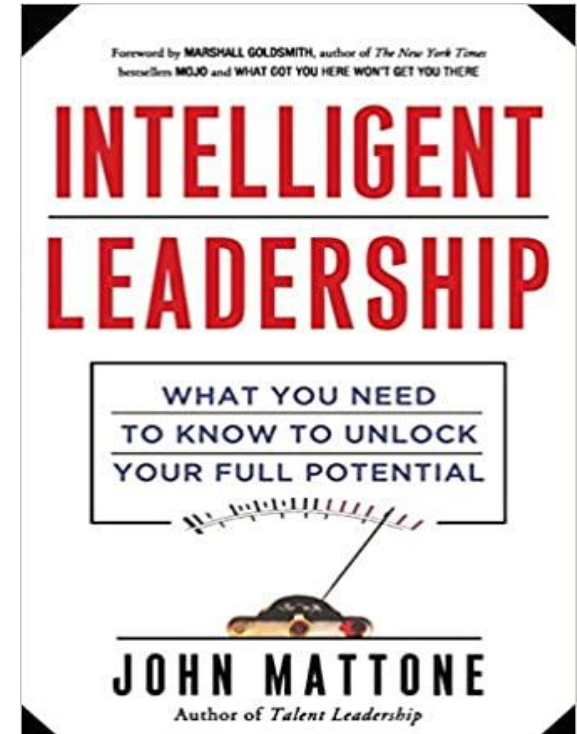
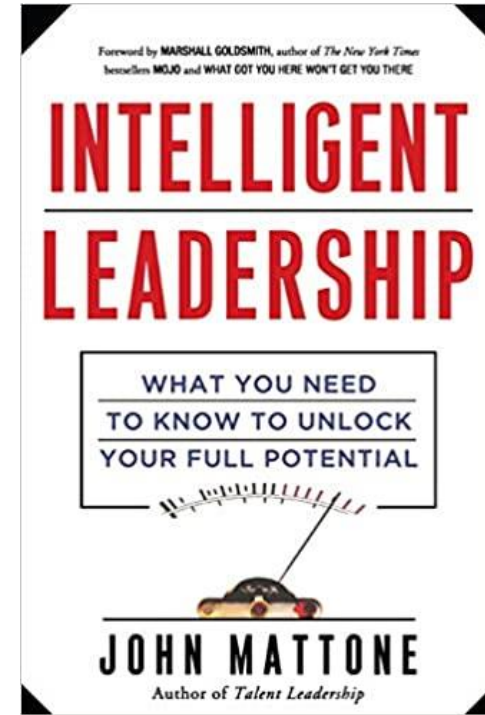


Image Source: <https://images-na.ssl-images-amazon.com/images/I/516mJO8GcGL. SX331 BO1,204,203,200 .jpg>

BOOK RECOMMENDATION

Leadership coach and author John Mattone has years of experience working with high-achieving professionals facing the enormous challenges that come with achieving and sustaining breakthrough operating results as a leader in today's business environment. Mattone recognizes the immense need for a roadmap to developing and mastering the executive maturity necessary for today's leaders. *Intelligent Leadership* helps readers calibrate their abilities so they can simultaneously focus on their strengths and--equally important--address their weaknesses. The goal is to improve key tactical competencies (such as critical and strategic thinking, decision-making, talent and team leadership, and communication) and integrate them with often ignored or under-utilized inner traits like values, character, and beliefs in order to achieve their leadership potential.

Image Source: <https://images-na.ssl-images-amazon.com/images/I/516mJO8GcGL. SX331 BO1,204,203,200 .jpg>



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THANK YOU

