Mathematically, Spearman's theory, in brief, is that every individual measurement of every intellectual ability may be resolved into two factors, one of which is a "general factor" (g) common to all the abilities measured, and the others "specific factor" (s) peculiar to each particular ability.

These are styles, not types. Any leader can use any style, and a good mix that is customised to the situation is generally the most effective approach. The Visionary Leader The Visionary Leader moves people towards a shared vision, telling them where to go but not how to get there - thus motivating them to struggle forwards. They openly share information, hence giving knowledge power to others. They can fail when trying to motivate more experienced experts or peers. This style is best when a new direction is needed. Overall, it has a very strong impact on the climate. The Coaching Leader The Coaching Leader connects wants to organizational goals, holding long conversations that reach beyond the workplace, helping people find strengths and weaknesses and tying these to career aspirations and actions. They are good at delegating challenging assignments, demonstrating faith that demands justification and which leads to high levels of loyalty. Done badly, this style looks like micromanaging. It is best used when individuals need to build long-term capabilities. It has a highly positive impact on the climate. The Affiliative Leader The Affiliative Leader creates people connections and thus harmony within the organization. It is a very collaborative style which focuses on emotional needs over work needs. When done badly, it avoids emotionally distressing situations such as negative feedback. Done well, it is often used alongside visionary leadership. It is best used for healing rifts and getting through stressful situations. It has a positive impact on climate. The Democratic Leader The Democratic Leader acts to value inputs and commitment via participation, listening to both the bad and the good news. When done badly, it looks like lots of listening but very little effective action. It is best used to gain buy-in or when simple inputs are needed when you are uncertain. The Pace-setting Leader The Pace-setting Leader builds challenge and exciting goals for people, expecting excellence and often exemplifying it themselves. They identify poor performers and demand more of them. If necessary, they will roll up their sleeves and rescue the situation themselves. They tend to be low on guidance, expecting people to know what to do. They get short term results but over the long term this style can lead to exhaustion and decline. Done badly, it lacks Emotional Intelligence, especially self-management. It is best used for results from a motivated and competent team. It often has a very negative effect on climate because it is often poorly done. The Commanding Leader The Commanding Leader soothes fears and gives clear directions by his or her powerful stance, commanding and expecting full compliance agreement is not needed. They need emotional self-control for success and can seem cold and distant. This approach is best in times of crisis when you need unquestioned rapid action and with problem employees who do not respond to other methods. EI himself and his famous friends.

Chapter 2 : Intelligence - Wikipedia

One of the more recent ideas to emerge is Howard Gardner's theory of multiple intelligences. Instead of focusing on the analysis of test scores, Gardner proposed that numerical expressions of human intelligence, such as in the IQ test, are not a full and accurate depiction of people's abilities.

A creative person is usually very intelligent in the ordinary sense of the term and can meet the problems of life as rationally as anyone can, but often he refuses to let intellect rule; he relies strongly on intuition, and he respects the irrational in himself and others. Above a certain level, intelligence seems to have little correlation with creativity--i. A distinction is sometimes made between convergent thinking, the analytic reasoning measured by intelligence tests, and divergent thinking, a richness of ideas and originality of thinking. Both seem necessary to creative performance, although in different degrees according to the task or occupation a mathematician may exhibit more convergent than divergent thinking and an artist the reverse. Many creative people show a strong interest in apparent disorder, contradiction, and imbalance; they often seem to consider asymmetry and disorder a challenge. At times creative persons give an impression of psychological imbalance, but immature personality traits may be an extension of a generalized receptivity to a wider-than-normal range of experience and behaviour patterns. Such individuals may possess an exceptionally deep, broad, and flexible awareness of themselves. Studies indicate that the creative person is nonetheless an intellectual leader with a great sensitivity to problems. He exhibits a high degree of self-assurance and autonomy. He is dominant and is relatively free of internal restraints and inhibitions. He has a considerable range of intellectual interests and shows a strong preference for complexity and challenge. This may result in a rejection of conventional morality, though certainly not in any abatement of the moral attitude. Theories of intelligence Theories of intelligence, as is the case with most scientific theories, have evolved through a succession of paradigms that have been put forward to clarify our understanding of the idea. The major paradigms have been those of psychological measurement often called psychometrics ; cognitive psychology, which concerns itself with the mental processes by which the mind functions; the merger of cognitive psychology with contextualism the interaction of the environment and processes of the mind ; and biologic science, which considers the neural bases of intelligence. Psychometric theories Psychometric theories have generally sought to understand the structure of intelligence: What form does it take, and what are its parts, if any? Such theories have generally been based on and tested by the use of data obtained from paper-and-pencil tests of mental abilities that include analogies e. Underlying the psychometric theories is a psychological model according to which intelligence is a composite of abilities measured by mental tests. This model is often quantified by assuming that each test score is a weighted linear composite of scores on the underlying abilities. For example, performance on a number-series test might be a weighted composite of number, reasoning, and possibly memory abilities for a complex series. Because the mathematical model is additive, it assumes that less of one ability can be compensated for by more of another ability in test performance. For instance, two people could gain equivalent scores on a number-series test if a deficiency in number ability in the one person relative to the other was compensated for by superiority in reasoning ability. The first of the major psychometric theories was that of the British psychologist Charles E. Spearman, who published his first major article on intelligence in Spearman noticed what, at the turn of the century, seemed like a peculiar fact: People who did well on one mental ability test tended to do well on the others, and people who did not do well on one of them also tended not to do well on the others. Spearman devised a technique for statistical analysis, which he called factor analysis, that examines patterns of individual differences in test scores and is said to provide an analysis of the underlying sources of these individual differences. The first and more important factor Spearman labeled the "general factor," or g, which is said to pervade performance on all tasks requiring intelligence. In other words, regardless of the task, if it requires intelligence, it requires g. The second factor is specifically related to each particular test. But what, exactly, is g? After all, calling something a general factor is not the same as understanding what it is. Spearman did not know exactly what the general factor might be, but he proposed in that it might be something he labeled "mental energy. Thurstone argued that the appearance of just a single

factor was an artifact of the way Spearman did his factor analysis and that if the analysis were done in a different and more appropriate way, seven factors would appear, which Thurstone referred to as the "primary mental abilities. It is a possibility, of course, that Spearman was right and Thurstone was wrong, or vice versa. Other psychologists, however, such as the Canadian Philip E. Vernon and the American Raymond B. Cattell, suggested another possibility--that both were right in some sense. In the view of Vernon and Cattell, abilities are hierarchical. At the top of the hierarchy is g, or general ability. Cattell, for example, suggested in a work that general ability can be subdivided into two further kinds of abilities, fluid and crystallized. Fluid abilities are the reasoning and problem-solving abilities measured by tests such as the analogies, classifications, and series completions described above. Crystallized abilities can be said to derive from fluid abilities and be viewed as their products, which would include vocabulary, general information, and knowledge about specific fields. Horn, an American psychologist, suggested that crystallized ability more or less increases over the life span, whereas fluid ability increases in the earlier years and decreases in the later ones. Most psychologists agreed that a broader subdivision of abilities was needed than was provided by Spearman, but not all of these agreed that the subdivision should be hierarchical. Guilford, an American psychologist, proposed a structure-of-intellect theory, which in its earlier versions postulated abilities. For example, in an influential work Guilford argued that abilities can be divided into five kinds of operations, four kinds of contents, and six kinds of products. These various facets of intelligence combine multiplicatively, for a total of 5 4 6, or separate abilities. An example of such an ability would be cognition operation of semantic content relations product , which would be involved in recognizing the relation between lawyer and client in the analogy problem, lawyer: In Guilford increased the number of abilities proposed by his theory, raising the total to It had become apparent that there were serious problems with psychometric theories, not just individually but as a basic approach to the question. For one thing, the number of abilities seemed to be getting out of hand. A movement that had started by postulating one important ability had come, in one of its major manifestations, to postulating Because parsimony is usually regarded as one of several desirable features of a scientific theory, this number caused some disturbance. Any method that could support so many theories seemed somewhat suspect, at least in the use to which it was being put. Most significant, however, was the seeming inability of psychometric theories to say anything substantial about the processes underlying intelligence. The cognitive psychologists proposed a solution to these problems, which was to study directly the mental processes underlying intelligence and, perhaps, relate them to the factors of intelligence proposed by the psychometricians. In an address to the American Psychological Association in , the American psychologist Lee Cronbach, a leader in the testing field, decried the fact that some psychologists study individual differences and others study commonalities in human behaviour but never do the two meet. Without an understanding of the processes underlying intelligence it is possible to come to misleading, if not wrong, conclusions when evaluating overall test scores or other assessments of performance. Suppose, for example, that a student does poorly on the type of verbal analogies questions commonly found on psychometric tests. A possible conclusion is that the student does not reason well. An equally plausible interpretation, however, is that the student does not understand the words or is unable to read them in the first place. A student seeing the analogy, audacious: A cognitive analysis enables the interpreter of the test score to determine both the degree to which the poor score is due to low reasoning ability and the degree to which it is a result of not understanding the words. It is important to distinguish between the two interpretations of the low score, because they have different implications for understanding the intelligence of the student. A student might be an excellent reasoner but have only a modest vocabulary, or vice versa. Underlying most cognitive approaches to intelligence is the assumption that intelligence comprises a set of mental representations e. A more intelligent person is assumed to represent information better and, in general, to operate more quickly on these representations than does a less intelligent person. Researchers have sought to measure the speed of various types of thinking. Through mathematical modeling, they divide the overall time required to perform a task into the constituent times needed to execute each mental process. Usually, they assume that these processes are executed serially--one after another--and, hence, that the processing times are additive. But some investigators allow for partially or even completely parallel processing, in which case more than one process is assumed to

be executed at the same time. Regardless of the type of model used, the fundamental unit of analysis is the same: A number of cognitive theories of intelligence have evolved. Among them is that of the American psychologists Earl B. Hunt, Nancy Frost, and Clifford E. Lunneborg, who in showed one way in which psychometrics and cognitive modeling could be combined. Instead of starting with conventional psychometric tests, they began with tasks that experimental psychologists were using in their laboratories to study the basic phenomena of cognition, such as perception, learning, and memory. They showed that individual differences in these tasks, which had never before been taken seriously, were in fact related although rather weakly to patterns of individual differences in psychometric intelligence test scores. These results, they argued, showed that the basic cognitive processes might be the building blocks of intelligence. Following is an example of the kind of task Hunt and his colleagues studied in their research. The experimental subject is shown a pair of letters, such as "A A," "A a," or "A b. The psychologists hypothesized that a critical ability underlying intelligence is that of rapidly retrieving lexical information, such as letter names, from memory. Hence, they were interested in the time needed to react to the question about letter names. They subtracted the reaction time to the question about physical match from the reaction time to the question about name match in order to isolate and set aside the time required for sheer speed of reading letters and pushing buttons on a computer. The critical finding was that the score differences seemed to predict psychometric test scores, especially those on tests of verbal ability, such as verbal analogies and reading comprehension. The testing group concluded that verbally facile people are those who have the underlying ability to absorb and then retrieve from memory large amounts of verbal information in short amounts of time. The time factor was the significant development here. A few years later, the American psychologist Robert J. Sternberg suggested an alternative approach to studying the cognitive processes underlying human intelligence. He argued that Hunt and his colleagues had found only a weak relation between basic cognitive tasks and psychometric test scores because the tasks they were using were at too low a level. Although low-level cognitive processes may be involved in intelligence, according to Sternberg they are peripheral rather than central. He proposed that psychologists should study the tasks found on the intelligence tests and then determine the mental processes and strategies that people use to perform those tasks. Sternberg began his study with the analogies tasks such as lawyer: He determined that the solution to such analogies requires a set of component cognitive processes: Using techniques of mathematical modeling applied to reaction-time data, Sternberg proceeded to isolate the components of information processing. He determined whether or not each experimental subject did, indeed, use these processes, how the processes were combined, how long each process took, and how susceptible each process was to error. Sternberg later showed that the same cognitive processes are involved in a wide variety of intellectual tasks, and he suggested that these and other related processes underlie scores on intelligence tests. Other cognitive psychologists have pursued different paths in the study of human intelligence, including the building of computer models of human cognition.

Chapter 3 : SparkNotes: Intelligence: Theories of Intelligence

Start studying 6 Theories of Intelligence. Learn vocabulary, terms, and more with flashcards, games, and other study tools.

Howard Gardner Quoting from Gardner [Online]: Howard Gardner is the John H. He has been awarded eighteen honorary degrees--including degrees from Princeton University, McGill University and Tel Aviv University on the occasion of the 50th anniversary of the state of Israel. In he was awarded a Guggenheim Fellowship. The author of eighteen books and several hundred articles, Gardner is best known in educational circles for his theory of multiple intelligences, a critique of the notion that there exists but a single human intelligence that can be assessed by standard psychometric instruments. During the past fifteen years, he and colleagues at Project Zero have been working on the design of performance-based assessments, education for understanding, and the use of multiple intelligences to achieve more personalized curriculum, instruction, and assessment. Most recently, Gardner and his colleagues have launched the Good Work Project. Researchers are examining how individuals who wish to carry out good work succeed in doing so during a time when conditions are changing very quickly, market forces are very powerful, and our sense of time and space is being radically altered by technologies, such as the web. Gardner is the author of eighteen books which have been translated into twenty languages. His two most recent books are The Disciplined Mind: David Perkins Quoting from Perkins [Online]: David Perkins received his Ph. The project was initially concerned with the psychology and philosophy of education in the arts, and later broadened to encompass cognitive development and cognitive skills in both humanistic and scientific domains. He has conducted long-term programs of research and development in the areas of teaching and learning for understanding, creativity, problem-solving and reasoning in the arts, sciences, and everyday life. He has also studied the role of educational technologies in teaching and learning, and has designed learning structures and strategies in organizations to facilitate personal and organizational understanding and intelligence. These inquiries reflect a conception of mind that emphasizes the interlocking relationships among thinking, learning, and understanding. The three depend deeply on one another. Meaningful learning aims at understanding and depends on thinking with and about what one is learning. Effective thinking in the subject matters and in general involves understanding the resources of the mind and learning to deploy them sensitively and systematically. My research is motivated primarily by a theory of successful intelligence, which attempts to account for the intellectual sources of individual differences that enable people to achieve success in their lives, given the sociocultural context in which they live. Successfully intelligent people discern their strengths and weaknesses, and then figure out how to capitalize on their strengths, and to compensate for or remediate their weaknesses. Successfully intelligent individuals succeed in part because they achieve a functional balance among a "triarchy" of abilities: Successfully intelligent people are not necessarily high in all three of these abilities, but find a way effectively to exploit whatever pattern of abilities they may have. Moreover, all of these abilities can be further developed. A fundamental idea underlying this research is that conventional notions of intelligence and tests of intelligence miss important kinds of intellectual talent, and overweigh what are sometimes less important kinds of intellectual talent. The article Sternberg, Summer is particularly interesting to the field of IT and education, as it focuses on how technology including calculators and computers,m but also other forms of technology such as radio and TV has been increasing intelligence. He writes about many and varied topics in the field of technology in education and in other areas. Harvard Project Zero [Online]. Quoting from the Website: Quoting from the Website, some of the goals of Project Zero include: Hunt, Earl July-August Quoting from the article: A central question in the debate is whether or not mental competence is a single ability, applicable in many settings, or whether competence is produced by specialized abilities, which a person may or may not possess independently. Almost equally important is the question of how cognitive skill, as evaluated by IQ tests, translates into everyday performance. Popular presentations on both sides of these questions leave the impression that these questions have simple answers. My goal in this essay is to discuss different theories of how intelligence is related to performance in modern society. The plural was

chosen intentionally, Although we know a good deal about individual differences in human cognition, there is no monolithic, agreed-upon, all-purpose theory to organize these facts, nor is there likely to be one. There are a number of different theories that are neither right nor wrong, but are useful for different purposes. Skipping over some details, human intellectual competence appears to divide along three dimensions. Following Raymond Cattell and John Horn , I shall refer to these dimensions as fluid intelligence Gf , crystallized intelligence Gc , and visual-spatial reasoning Gv. Cattell and Horn describe them as follows: Fluid intelligence is the ability to develop techniques for solving problems that are new and unusual, from the perspective of the problem solver. Crystallized intelligence is the ability to bring previously acquired, often culturally defined, problem-solving methods to bear on the current problem. Note that this implies both that the problem solver knows the methods and recognizes that they are relevant in the current situation. Visual-spatial reasoning is a somewhat specialized ability to use visual images and visual relationships in problem solving--for instance, to construct in your mind a picture of the sort of mental space that I described above in discussing factor-analytic studies. Interestingly, visual-spatial reasoning appears to be an important part of understanding mathematics. Learning and Intelligence [Online]. There is little agreement on a general definition of intelligence, but most people would agree that it involves, at least, the ability to learn and apply what has been learned. Appropriate to our time, Robert Sternberg adds further that it involves the ability to adapt to the environment, or modify the environment, or seek out and create new environments. It is clear that there is little correlation between assessed l. Many cognitive researchers are proving that intelligence is, in fact, an open, dynamic system, modifiable at any age and ability level. For example, over research studies based on the work of Reuven Feuerstein support his theory of Structural Cognitive Modifiability. Most intriguing is the work of researchers like Howard Gardner, David Perkins, Robert Sternberg, and others who are looking beyond conventional definitions of intelligence. Their work has profound implications schools and training programs , curriculum development and assessment, and even design of learning environments. Societal Implications and Soaring IQs. Brief Abstract Technology is changing society in many ways--some quite unexpected. Are there inevitable social tradeoffs for higher IQs? First Paragraph With all the moaning and groaning we constantly hear about the way schools educate our children, we often lose sight of an important and startling fact: Teaching for successful intelligence. Skylight Training and Publishing Inc. This relatively short article gives a brief introduction to seven principles of experiential learning. Quoting from the article, they are: Participants learn to repeat behaviors that are rewarded. Events that are accompanied by intense emotions result in long-lasting learning. Active responding produces more effective learning than passive listening or reading. Learners cannot master skills without repeated practice and relevant feedback. New learning should be linked to and build upon the experiences of the learner. Different people learn in different ways. Current Issues in Research on Intelligence. Quotinf from the Website: Intelligence has been defined and studied under a number of different rubrics, among them individual differences, cognitive abilities, and aptitudes. Probably the most influential developments in our recent understanding of these concepts have come from educational and psychological researchers associated with cognitive psychology. Three of those individuals, Robert Sternberg, Howard Gardner, and John Horn serve as a representative sample of researchers who have made significant gains in our current conceptions of intelligence.

Chapter 4 : Multiple Intelligences

Theories of Intelligence. A typical dictionary definition of intelligence is "the capacity to acquire and apply knowledge." Intelligence includes the ability to benefit from past experience, act purposefully, solve problems, and adapt to new situations.

By Tri Intelligence is broken down into nine different types, also called the nine domains of intelligence. The Theory of Multiple Intelligences. Since then, the Multiple Intelligences theory been used as one of the primary models for research that has gone on concerning human cognition. Gardner argues that there is no one true way to measure intelligence and that the human brain is wired with a wide range of cognitive abilities. Framing intelligence in the way Gardner does disrupts the old mold of thinking in which intelligence was ultimately a measure of what Gardner would call logical-mathematical intelligence. Thus limiting the definition of intelligence is detrimental to our understanding of how the human brain works. So without further ado, I present to you the nine different types of intelligence: Naturalistic Intelligence Ever wonder why certain people are able to connect with animals just like that? Farming and hunting were clearly among the activities that relied on this type of intelligence. Today, naturalistic intelligence remains a vital component of roles like being a chef or botanist. This type of intelligence is also seen in the way consumers discriminate among products. Musical Intelligence While other people gravitate towards nature, there are also those who tend to be drawn to the musical arts. With this type of intelligence, people are able to detect, generate, reproduce, and contemplate music as clearly exhibited by attuned listeners, musicians, composers, vocalists, and conductors. It is also interesting to note that a connection has been shown to exist between emotions and music as well as mathematics and music. Read about how music changes your mood 3. Logical-Mathematical Intelligence Who can forget that classmate of yours in high school who seemed to know the answer to every mathematical equation your teacher asked? Who can also fail to remember that peer of yours who could reason his way to winning every argument? They are the perfect embodiment of logical-mathematical intelligence. This type of intelligence equips a person with the ability to calculate and carry out mathematical operations as well as mull over hypotheses and propositions. Later on, you might see these youth going on to become detectives, scientists, and mathematicians. Logical-mathematical intelligence has been closely linked to fluid intelligence and general intelligence. While most people just shake these kinds of thoughts away, individuals who are particularly keen to their own existence are drawn to exploring such questions like why are people born, how do they get here, and why do they die. They also have the capacity and sensitivity to tackle thoughts about what lies beyond life and death. Those with high existential intelligence are deeply philosophical. A Harvard Study Answers the Question 5. Interpersonal Intelligence You might have observed that there are certain persons who have the seemingly unique ability to get along superbly with others. Interpersonal intelligence makes it possible for a person to effectively communicate through verbal and nonverbal means, to distinguish among others, to sense the temperament and moods of people, and to consider various points of view. This type of intelligence can also be found in young adults who hold leadership roles. Bodily-Kinesthetic Intelligence Know how you tend to embarrass yourself with your two left feet and see your best friend practically floating on the dance floor? People with bodily-kinesthetic intelligence have an almost perfect sense of timing, and their mind-body coordination is nearly faultless. Even as a number of persons struggle to become well-coordinated, people who possess this type of intelligence usually grow up to become craftspeople, dancers, surgeons, athletes, and other careers involving exceptional mind-body union. Read about what dancing does to the brain 7. Linguistic Intelligence Being the intelligence most commonly shared by humans, linguistic intelligence involves the human capacity to think in words and use these to make oneself understood. Though this human competence is widely used, it is most evident in the way effective public speakers, novelists, journalists, and poets make use of their meta-linguistic skills. Read about the 12 benefits of learning a foreign language 8. Intra-Personal Intelligence People who have the remarkable ability to understand themselves, their thoughts, and their emotions and are capable of using this knowledge to plan their lives possess intra-personal intelligence. While intra-personal intelligence does involve self-appreciation,

it also comprises a wider understanding of the human condition. Examples of people with evident intra-personal intelligence include philosophers, spiritual leaders, writers, and psychologists. Spatial Intelligence The last domain is spatial intelligence, which is defined as the human capacity to consider things in three dimensions. This type of intelligence involves the following core capacities: People with spatial intelligence are highly creative. At a young age, people with high spatial intelligence are deeply entrenched in solving jigsaw puzzles or mazes, or they may be using up their extra time by daydreaming or drawing. Keep in mind that this is just a model for intelligence and there are many who score high in more than one category. The most famous one that would come to mind is Leonardo De Vinci. Go over the list and analyze which type of intelligence you would categorize yourself. If you want to learn how to increase all these types of intelligences, read here.

Chapter 5 : Theories of Intelligence: Notes on Theories of Intelligence

Theory of Multiple Intelligences This theory suggests that traditional psychometric views of intelligence are too limited. Gardner first outlined his theory in his book "Frames of Mind: The Theory of Multiple Intelligences," where he suggested that all people have different kinds of "intelligences.".

Top 6 Theories Psychology Article Shared by Read this article to learn about the theories of intelligence. Theory of Intelligence 1. Spearman gave his two factor theory of intelligence in According to Spearman the mental traits are not independent; there is a common element in all our cognitive abilities. This is the basis of his famous two-factor theory of intelligenceâ€"the theory that every different intellectual activity involves a general factor, which it shares with all other intellectual activities, and a specific factor, which it shares with none. Theory of Intelligence 2. We may also express this in an equivalent algebraic form: For example, from the set of coefficients we get by cross-multiplication. A square block of four coefficients Spearman termed a tetrad and the equation expressing the equality of the cross-products the tetrad equation. In algebraic terms the first of the above tetrad equations would read: The two-factor theory now rests on a firm mathematical basis. The amount of correlation between any two tests is determined by the extent to which the two tests are loaded with G. Another chart of inter-correlation of 6 tests is given below, arranged in the hierarchical order. The chart shows the weightages: More clearly, in this table the variables have been arranged in order of the rank of the sums. In every column the coefficients are graded from high to low. This is called by Spearman the hierarchical order. The tests A and B have a relatively higher correlation, that is, they have much in common in G, whereas tests A and C have little correlation, because they have small loadings with G. Thorndike devised a testâ€"the C A V D Completion, Arithmetic, Vocabulary, and Understanding of directions and discourse , as a basis of the theory that intelligence is a composite of many different abilities interconnecting in the brain. Thorndike proposed three kinds of intelligenceâ€" Social, Concrete and Abstract. This was probably the first multifactor theory of intelligence, though not based on the results of a factor analysis of ability tests. Theory of Intelligence 3. Sampling Theory of Godfrey Thomson: He claims that the two factor theory is not the only possible explanation of the facts. According to the sampling theory, every test samples a certain range of the elementary human abilities; some with a wide range, some with a narrow range. It is a constant combination of the ability elements. Similarly, the group factors are combinations, more or less stable, of more limited collections of elements, specific factors are composed of elements that restrict their appearance to single testsâ€" G. Theory of Intelligence 4. The multifactor theory holds that the performance on a certain test depends on one or more common factors, each weighted according to its significance for success in the task. The theory is based on various methods of factor analysis: Geometrically, the multiple factor model is a set of dimensions or vectors extending from the same origin, each vector representing a common factor. A factor loading is also the correlation between a test an empirical variable and the factor a purely ideal variable. Thurstone deduced seven primary abilities. His deduction was based on an analysis of Aptitude Research Project experiences. British psychologists like Cyril Burt and Vernon gave an alternative scheme for the organisation of factors. At the next level he places two broad group factors, corresponding to verbal-educational v: These major factors may be further sub-divided. The verbal educational factor may be sub-divided into verbal and numerical sub-factors, and the practical mechanical factor into mechanical information, spatial, and psychomotor ability. At the lowest level of the hierarchy are the special factors. Theory of Intelligence 6. Cattell, general intelligence is composed of two factorsâ€" fluid intelligence G and crystallized intelligence Gc. Both types of ability are concerned with the ability to perceive relationships, fluid-ability is general to many fields, and crystallized intelligence is specific to certain fields, like school learning. Fluid intelligence is used more in tasks requiring adaptation to new situations, while crystallized intelligence is used to tasks where habits have become fixed. He applied oblique rotations in his factor analysis. These two factorsâ€"fluid and crystallized intelligenceâ€"are distinct but correlated. Jean Piaget has given a theory of intelligence cognitive development , not based on factor analysis. He believes that cognitive development takes place in a series of four stages â€" Sensory motor stage up to 2 years when the child learns

to exercise simple reflexes and coordinate various perceptions, leading to general operational stage from 11 to 15 years. During adolescence the child can perform more abstract operation.

Chapter 6 : 9 Types Of Intelligence - Infographic

Theories of Intelligence. We can become more intelligent through study and practice, through access to appropriate tools, and through learning to make effective use of these tools (Perkins,).

Howard Gardner[edit] Howard Gardner has earned his place in psychological history for revolutionizing education with his Theory of Multiple Intelligences As a young man, Gardner attended Harvard University with the intention of studying law. This notion changed, however, he met a number of influential individuals: Gardner was consequentially inspired to pursue interests in psychology and social sciences Winner, In , he began working on Project Zeroâ€"a research team on arts education. This pursuit became a forum for Gardner to explore his interest in human cognition; it also became a passionate commitment that would span over twenty years Winner, By , Gardner earned his PhD from Harvard, completing his dissertation on style and sensitivity in children. He then lectured at Harvard until , when he began teaching at the Harvard Graduate School of Education Winner, To date, Howard Gardner has received honorary degrees from twenty-one different colleges and universities. Internationally, these include institutions in Ireland, Italy, Israel, and Chile. He continues to co-direct Project Zero with David Perkins. He would write and publish at least fifteen more major books. Some of these works include: The Theory of Multiple Intelligence â€"this second edition celebrated the ten year anniversary of the original work, Intelligence Reframed: Beyond Facts and Standardized Tests: He is most known for his work on the Theory of Multiple Intelligences. Individuals high in linguistic intelligence are often writers, poets, and lawyers. Logical-Mathematical Intelligence Logical-mathematical intelligence is the ability to analyze problems logically. It includes skill at completing mathematical operations and solving mathematical problems as well as the ability to investigate hypotheses scientifically. Those high in logical-mathematical intelligence tend to be logical thinkers with high deductive reasoning skills. It includes skill at recognizing and using patterns. Architects, urban planners, geographers, cartographers, pilots, and sailors tend to be high in spatial intelligence abilities. Musical Intelligence Musical intelligence includes abilities in composing and performing music and in recognizing and composing musical pitches, tones, and rhythms. It also includes skills in recognizing and appreciating musical patterns. According to Gardner, mental and physical abilities are related. Athletes, dancers, actors, and performers often display high levels of bodily-kinesthetic intelligence. Such skills are beneficial in working and getting along with others. Those high in interpersonal intelligence are often educators, salespeople, religious and political leaders, counsellors and social workers. It includes the ability to use this knowledge toward successful outcomes. Writers and artists often demonstrate intrapersonal intelligence in their work. These forms of intelligence include: Spiritual Intelligence Spiritual intelligence explores the nature of existence. Existential Intelligence Existential intelligence refers to the concern with the "ultimate issues. Robert Sternberg[edit] Robert J. Sternberg may be considered one of the most prominent psychologists of this century. In addition to his theoretical contributions, Sternberg is the author of over published works. His major contributions to psychology have been his work on intelligence, creativity, and wisdom. Sternberg was born on December 8, From an early age, he was interested in intelligence, and at the age of 13 he designed and wrote his first intelligence test. Sternberg graduated in psychology from Yale University in , and then went on to earn his Ph. He also holds five honorary doctorates. This centre has been relocated to Tufts University His commitments and accomplishments in the fields of psychology and education are many: Sternberg holds that conventional measures of intelligence, such as SATs and IQ tests, fail to identify the high abilities many individuals possess. From this perspective, traditional educational methods can be problematic for their tendency to favour students with strong memory and analytical skills Sternberg, Oftentimes, students with strong creative and practical skills are disadvantaged due to teaching methods that do not allow them to demonstrate their strengths and skills Sternberg, Sternberg also criticizes traditional methods for a tendency to favour students of higher socio-economic backgrounds. His research led to the development of the Triarchic Theory of Human Intelligence and the theory of Successful Intelligence. In this way, creative intelligence encompasses creative thinking. It is reflective of how the individual relates to the external world. Most individuals will score higher

in one of the three areas of intelligence. Individuals with high levels of successful intelligence tend to be better equipped for success and able to adapt well to their socio-cultural context. In addition, the theory of successful intelligence offers researchers, psychologists, and educators an opportunity to redefine intelligence, and educational opportunity. Spearman[edit] Charles Spearman was one of the earliest psychologists to propose a factor analytic approach to intelligence testing. Spearman conceptualized the g factor as general mental energy. This factor is involved in deductive reasoning and is linked to the "skill, speed, intensity, and extent of intellectual output. The cognitive abilities associated with general mental ability might include being able to describe how two concepts are related or being able to find a second idea that is related to one that has already been proposed. Tests with high g loading are complex and include tasks that involve reasoning and hypothesis testing Sattler, Tests with low g loadings are less complex and include tasks that involve recognition, recall, and speed Sattler, Emotional Intelligence[edit] The construct of emotional intelligence, or EQ , is becoming an increasingly valued area of psychological research due to the adaptive properties it holds for both the individual and society. Experts vary somewhat in their definition of emotional intelligence and the standards for its empirical assessment, but most agree that individuals having high EQ scores possess character traits that foster strong interpersonal skills, excellent coping strategies, and decision-making abilities that lead to positive outcomes. An understanding of emotional intelligence is therefore not only conducive to intellectual growth, it holds a significant role in individual happiness. The study of intelligence has a rich history in cognition, and it was long held that the arousal state of emotion caused disorganization of cognitive activity Massey, About a century later, Howard Gardner challenged the traditional notion of IQ in his day by introducing the world to new intelligences, proposing that individuals have many intelligences in a variety of abilities. His famous book titled Frames of Mind: The Theory of Multiple Intelligences Gardner, outlined seven new intelligences with highly adaptive properties. Two aspects of his theory, interpersonal and intrapersonal intelligences, correspond to some aspects of EQ abilities. Although Gardner is against the concept of emotional intelligence, his work has precipitated research in the areas of interpersonal relations and self-understanding-components of EQ. Two components of his theoryâ€"creative intelligence and practical intelligenceâ€"comprise skills beyond those measured in traditional IQ assessments, with qualities mirrored in EQ abilities Sternberg, Some research points to the value of understanding emotions evoked in art, and the healing power of creativity Glennon, ; other works hold practical aspects of goal attainment to be in new approaches to intelligence, including areas of EQ. Their work would lead many researchers to consider the role of effective social interactions in intelligence, inspiring future work on EQ abilities. It was not until that the term "emotional intelligence" was first used, when John D. Mayer and Peter Salovey formulated their original hierarchical model of EQ. In his book, Goleman defines emotional intelligence as: The book became a best seller. Expanding on their earlier work, Mayer and Salovey formulated a revised model of emotional intelligence , which gave more emphasis to cognitive components of EQ, and conceptualized EQ as it related to intellectual and emotional growth. This processing model contained four branches: Perceiving Emotions The ability to perceive emotions in oneself and others as well as in objects, art, stories, music, and other stimuli. Facilitating Thought The ability to generate, use, and feel emotion as necessary to communicate feelings or employ them in other cognitive processes. Understanding Emotions The ability to understand emotional information, to understand how emotions combine and progress through relationship transitions, and to appreciate such emotional meanings. Managing Emotions The ability to be open to feelings, and to modulate them in oneself and others so as to promote personal understanding and growth. Work in the field was gaining increased popularity, and competing theories were surfacing. This research produced a test of the emotional intelligence quotient. The same year, the book Executive EQ: The corporate world began to recognize the importance of emotional intelligence, its role in the knowledge economy, and its impact for success. As the end of the decade neared, additional research studies on the construct continued to be published. This work defined emotional intelligence according to the following abilities: While all this research was going on, controversey and debate over whether emotional intelligence qualifies as an intelligence was high. In response, John D. Caruso, and Peter Salovey published research to support emotional intelligence meets traditional standards for an intelligence. An empathy scale has also been added. The

measurement of emotional intelligence now had an application in educational settings. She states that individuals with greater levels of emotional intelligence come to make decisions that impact on their lives positively; the opposite is also true Sullivan, For example, children having high scores on the EISC achieve academic success, whereas children having low scores are at risk of dropping out of school Sullivan, This work was beneficial in allowing educators to consider ways of helping children achieve high EQ abilitiesâ€"traces of this notion are found in the teaching of character education. Teachers were learning how to help children become happy and successful in later life. The turn of the new millennium brought about research on emotional intelligence in applied settings. In group settings, individuals with low EQ scores fail to participate in group tasks and do not contribute to discussions; they display little consideration toward others and their opinions, and are uninterested in group activities Englund et al. With this knowledge, the business world began to recognize the value of hiring emotionally intelligent individuals for their skills in social competence.

Chapter 7 : Six Emotional Leadership Styles

6 Important Theories of Intelligence are 1. The Monarchic Theory, 2. Oligarchic Theory, 3. Anarchic Theory, 4. The Eclectic Theory or Bifactor Theory, 5. Thurstone's Primary Mental Ability Theory and 6. Kelley's Multifactor Theory. According to this theory, intelligence is regarded as an.

Spatial picture smart What other scientists thought were just soft-skills, such as interpersonal skills, Gardener realized were types of intelligence. Not knowing math you may not calculate the rate at which the universe is expanding, but you are likely to have the skills to find the right person who will. Naturalist Intelligence Naturalist intelligence designates the human ability to discriminate among living things plants, animals as well as sensitivity to other features of the natural world clouds, rock configurations. This ability was clearly of value in our evolutionary past as hunters, gatherers, and farmers; it continues to be central in such roles as botanist or chef. It is also speculated that much of our consumer society exploits the naturalist intelligences, which can be mobilized in the discrimination among cars, sneakers, kinds of makeup, and the like. Musical Intelligence Musical intelligence is the capacity to discern pitch, rhythm, timbre, and tone. This intelligence enables us to recognize, create, reproduce, and reflect on music, as demonstrated by composers, conductors, musicians, vocalist, and sensitive listeners. Interestingly, there is often an affective connection between music and the emotions; and mathematical and musical intelligences may share common thinking processes. Young adults with this kind of intelligence are usually singing or drumming to themselves. They are usually quite aware of sounds others may miss. Logical-Mathematical Intelligence Logical-mathematical intelligence is the ability to calculate, quantify, consider propositions and hypotheses, and carry out complete mathematical operations. It enables us to perceive relationships and connections and to use abstract, symbolic thought; sequential reasoning skills; and inductive and deductive thinking patterns. Logical intelligence is usually well developed in mathematicians, scientists, and detectives. Young adults with lots of logical intelligence are interested in patterns, categories, and relationships. They are drawn to arithmetic problems, strategy games and experiments. Existential Intelligence Sensitivity and capacity to tackle deep questions about human existence, such as the meaning of life, why we die, and how did we get here. Interpersonal Intelligence Interpersonal intelligence is the ability to understand and interact effectively with others. It involves effective verbal and nonverbal communication, the ability to note distinctions among others, sensitivity to the moods and temperaments of others, and the ability to entertain multiple perspectives. Teachers, social workers, actors, and politicians all exhibit interpersonal intelligence. Bodily-Kinesthetic Intelligence Bodily kinesthetic intelligence is the capacity to manipulate objects and use a variety of physical skills. This intelligence also involves a sense of timing and the perfection of skills through mindâ€"body union. Athletes, dancers, surgeons, and crafts people exhibit well-developed bodily kinesthetic intelligence. Linguistic Intelligence Linguistic intelligence is the ability to think in words and to use language to express and appreciate complex meanings. Linguistic intelligence allows us to understand the order and meaning of words and to apply meta-linguistic skills to reflect on our use of language. Linguistic intelligence is the most widely shared human competence and is evident in poets, novelists, journalists, and effective public speakers. Young adults with this kind of intelligence enjoy writing, reading, telling stories or doing crossword puzzles. Intra-personal intelligence involves not only an appreciation of the self, but also of the human condition. It is evident in psychologist, spiritual leaders, and philosophers. These young adults may be shy. They are very aware of their own feelings and are self-motivated. Spatial Intelligence Spatial intelligence is the ability to think in three dimensions. Core capacities include mental imagery, spatial reasoning, image manipulation, graphic and artistic skills, and an active imagination. Sailors, pilots, sculptors, painters, and architects all exhibit spatial intelligence. Young adults with this kind of intelligence may be fascinated with mazes or jigsaw puzzles, or spend free time drawing or daydreaming. What do you think? Challenging a millenia-old notion that intelligence is a single kind of human capacity does not necessarily win one friends among the intelligent. This book questions what we consider a good education, what we consider talent, and how much control one has to acquire them. Multiple Intelligences in the Classroom , 3rd ed. Association for Supervision and Curriculum

Development,

Intelligence: Theories And Issues 6. The eduction of correlates when a person has in mind data upon which early theories of intelligence were based. When there. are many tests in a study.

Introspection This area has to do with introspective and self-reflective capacities. It seems to me that the individual who is readily able to recognize flora and fauna, to make other consequential distinctions in the natural world, and to use this ability productively in hunting, in farming, in biological science is exercising an important intelligence and one that is not adequately encompassed in the current list. This ability was clearly of value in our evolutionary past as hunters, gatherers , and farmers ; it continues to be central in such roles as botanist or chef. Spiritual intelligence Gardner did not want to commit to a spiritual intelligence, but suggested that an "existential" intelligence may be a useful construct, also proposed after the original 7 in his book. For example, the theory postulates that a child who learns to multiply easily is not necessarily more intelligent than a child who has more difficulty on this task. The child who takes more time to master multiplication may best learn to multiply through a different approach, may excel in a field outside mathematics, or may be looking at and understanding the multiplication process at a fundamentally deeper level. This challenges the notion of fixed or static intelligence levels that general intelligence tests measure. More importantly, it challenges the notion that intelligence test scores are an accurate predictor for future ability. The french semiologist Yves Richez corrects and overtakes the theory of multiple intelligences by the C. P theory configuration, utility, potentiation [23]. Definition of intelligence[edit] One major criticism of the theory is that it is ad hoc: This practice has been criticized by Robert J. Sternberg , [24] [25] Eysenck , [26] and Scarr. He originally defined it as the ability to solve problems that have value in at least one culture, or as something that a student is interested in. He then added a disclaimer that he has no fixed definition, and his classification is more of an artistic judgment than fact: Gardner argues this causes the former to be needlessly aggrandized. Certain critics are wary of this widening of the definition, saying that it ignores "the connotation of intelligence Thus, studying intelligence becomes difficult, because it diffuses into the broader concept of ability or talent. Defenders of the MI theory would argue that this is simply a recognition of the broad scope of inherent mental abilities, and that such an exhaustive scope by nature defies a one-dimensional classification such as an IQ value. The theory and definitions have been critiqued by Perry D. Klein as being so unclear as to be tautologous and thus unfalsifiable. Having a high musical ability means being good at music while at the same time being good at music is explained by having a high musical ability. Those are greek-Latin inventions Platon. Neo-Piagetian criticism[edit] Andreas Demetriou suggests that theories which overemphasize the autonomy of the domains are as simplistic as the theories that overemphasize the role of general intelligence and ignore the domains. He agrees with Gardner that there are indeed domains of intelligence that are relevantly autonomous of each other. All of these processes are integral components of general intelligence that regulate the functioning and development of different domains of intelligence. Their functioning both channels and influences the operation of the general processes. In this context, humans are contrasted to social insects that indeed have a distributed "intelligence" of specialists, and such insects may spread to climates resembling that of their origin but the same species never adapt to a wide range of climates from tropical to temperate by building different types of nests and learning what is edible and what is poisonous. While some such as the leafcutter ant grow fungi on leaves, they do not cultivate different species in different environments with different farming techniques as human agriculture does. It is therefore argued that human adaptability stems from a general ability to falsify hypotheses and make more generally accurate predictions and adapt behavior thereafter, and not a set of specialized abilities which would only work under specific environmental conditions. He argues the importance of assessing in an "intelligence-fair" manner. While traditional paper-and-pen examinations favor linguistic and logical skills, there is a need for intelligence-fair measures that value the distinct modalities of thinking and learning that uniquely define each intelligence. Kaufman points out that IQ tests have measured spatial abilities for 70 years. While IQ tests do give an overall IQ score, they now also give scores for many more narrow abilities. According to the study, each of the

domains proposed by Gardner involved a blend of g, of cognitive abilities other than g, and, in some cases, of non-cognitive abilities or of personality characteristics. In contrast, empirical support for non-g intelligences is either lacking or very poor. She argued that despite this the ideas of multiple non-g intelligences are very attractive to many due to the suggestion that everyone can be smart in some way. To date, there have been no published studies that offer evidence of the validity of the multiple intelligences. In Sternberg reported finding no empirical studies. In Allix reported finding no empirical validating studies, and at that time Gardner and Connell conceded that there was "little hard evidence for MI theory" , p. In Sternberg and Grigerenko stated that there were no validating studies for multiple intelligences, and in Gardner asserted that he would be "delighted were such evidence to accrue", [46] and admitted that "MI theory has few enthusiasts among psychometricians or others of a traditional psychological background" because they require "psychometric or experimental evidence that allows one to prove the existence of the several intelligences. Taken together the evidence for the intercorrelations of subskills of IQ measures, the evidence for a shared set of genes associated with mathematics, reading, and g, and the evidence for shared and overlapping "what is it? Equally important, the evidence for the "what is it? Because Gardner claimed that the intelligences are innate potentialities related to a general content area, MI theory lacks a rationale for the phylogenetic emergence of the intelligences. Gardner believes that the purpose of schooling "should be to develop intelligences and to help people reach vocational and avocational goals that are appropriate to their particular spectrum of intelligences. People who are helped to do so, [he] believe[s], feel more engaged and competent and therefore more inclined to serve society in a constructive way. Upon doing well on these tests, the chances of attending a prestigious college or university increase, which in turn creates contributing members of society. It challenges educators to find "ways that will work for this student learning this topic". Within the area of education, the applications of the theory are currently being examined in many projects. Our hunches will have to be revised many times in light of actual classroom experience.

Chapter 9 : Theories of Intelligence: Top 6 Theories |Psychology

The Cattell-Horn Fluid-Crystallized Intelligence Theory distinguished between two types of intelligence, that is fluid intelligence and crystallized intelligence. Fluid intelligence refers to the ability to understand and reason with nonverbal (culturally free) information.

The Monarchic Theory, 2. The Eclectic Theory or Bifactor Theory, 5. According to this theory, intelligence is regarded as an adaptiveness which enables a creature to adjust itself to changing environment. People holding this view believe in inborn all-round mental efficiency as a sign of intelligence. According to this view, a person who can perform one intellectual task very well, can also perform another task equally well. Johnson, who believed in such a doctrine, said that if Newton could have turned his mind to poetry, he would have been as great a poet as he was a mathematician. According to this, intellectual abilities are regarded to belong to some groups. Though, there is much correlation between abilities belonging to the same group, there is little correlation between the abilities belonging to the other groups. It holds that cognitive abilities are manifestations not of a single Commanding faculty but of a few main intellectual powers of groups of abilities. A boy may be good in Mathematics but poor in a language or vice-versa. In related subjects he does fairly well but fails in unrelated subjects. The chief exponent of this theory is Prof. According to him, the mind is a host of highly particularised and independent faculties. The Eclectic Theory or Bifactor Theory: This theory has been propounded by Spearman. Intelligence, according to his view consists of two factors the general factor and specific factor. But there are differences in the general abilities of different individuals as well as in their special abilities. If we consider two persons A and B who make the same scores in adding figures, we cannot be sure that they will also make the same scores in discriminating pitch. Selection of students for civil service based on high score in classics is safer than their selection for such a job based on a good musical ability. Spearman has established his theory of two factors by showing that there is always a positive correlation in the performance of an individual in any two tasks. Because the methods of factor analysis is basic to his proof that such abilities exist, he refers to his theory as a multifactor theory of mental organization. In the Thurstone study, a wide variety of tests, calling for almost every kind of performance we could describe as intelligence, was administered to a large population of high school and college students. As Spearman had predicted, all the correlations were positive. It was however, possible to show that some tests grouped themselves together in clusters, seeming by having something in common. The correlations within the cluster were higher than wits tests not in the cluster. Thurstone suggested that each group of test was lapping some primary mental ability. According to Thurstone the primary mental abilities are: