

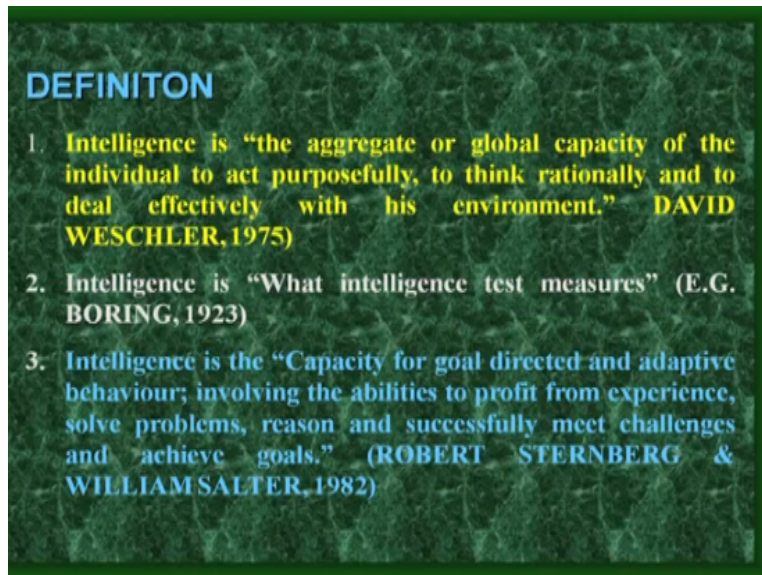
**Emotional Intelligence**  
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**Module No # 1**  
**Lecture No # 05**  
**Introduction to Intelligence**

Well good morning so let us say carried for the earlier discussion in our earlier discussions we cover different concepts of intelligence say emotions and wisdom and how this concepts are inter related and what could be the possible outcomes of their associations for the benefit of mankind.

Today will be is exclusively examining the concept of intelligence its nature, meaning, type, theories, models and how possibly in a systemic manner we can examine the concept and we can measure we can look into how different tools can be applied to measure intelligence and we can profile somebody intellectual profile if we measure intelligence then what would be our benefit what could be the possible applications.

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So today will be trying to examine all this interrelated concepts to begin with let us see the definition of intelligence has been a topic of discussion in terms of its wide applications a many psychologists have defined this concepts in their own ways. However we have selected a few of them that are widely accepted across the globe once its definition is intelligence is the aggregate

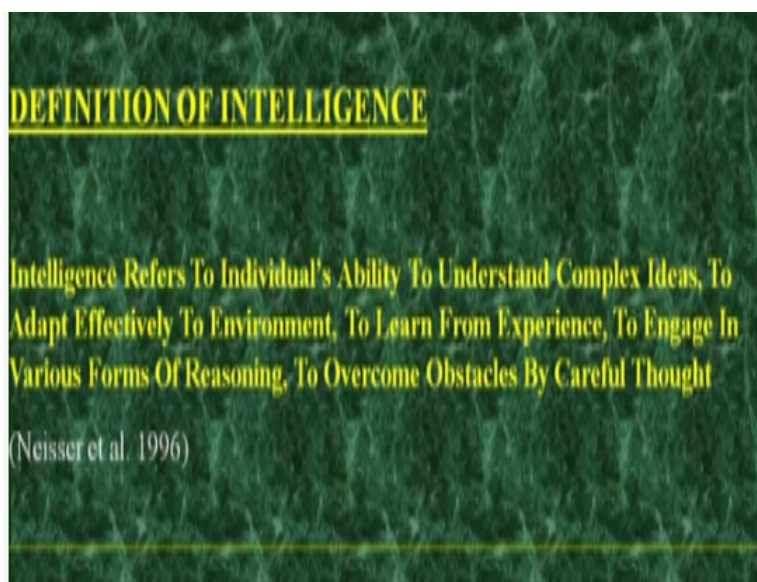
of global capacity of individual to act purposefully think rationally and effectively with this environment this definition was given by David Weschler.

And this definition seems to be a very one of the most comprehensive definitions in the field of intelligence. However due to lack of it is the practical feasibility in terms of the measurement aspects theory theoreticians and you know applied psychologist they strongly allot to come up with instrument that could most probably measure the global capacity.

So that is the only one difficult is however Weschler has tried to come up, with one of the best measure widely popular in many fields that is known as Weschler (()) (02:20) skill. However looking at its difficulty in terms of measurement intelligence further look into in terms of measuring its different domains is worrying another famous psychologist who come up with another definition that what intelligent test measure is labeled as once intelligence.

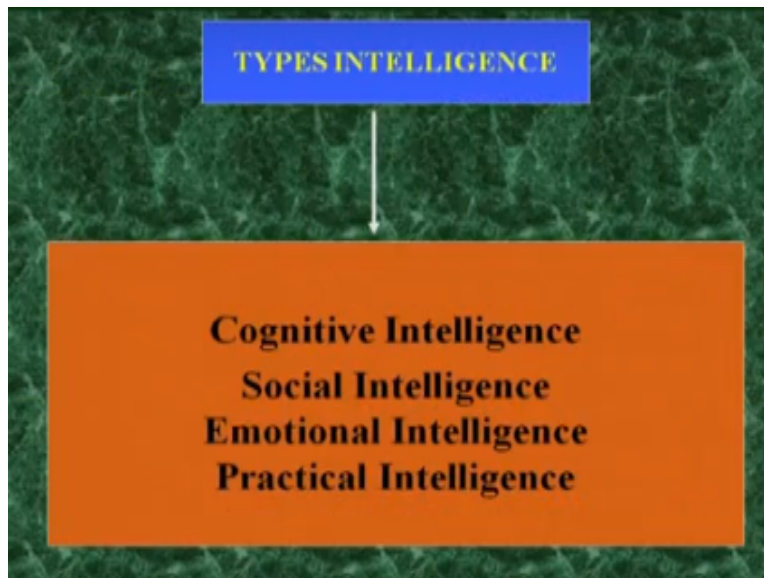
Going further one more very elaborate definition come up with the research work of Sternberg and is colleagues in the year nineteen eighty two. Sternberg and is colleagues they the describe intelligence of one's capacity for goal directed activity and also adoptive behavior that involves the ability to profit from experiences, solve problem, reason out, successive fully made the challenges and achieve goals in our life.

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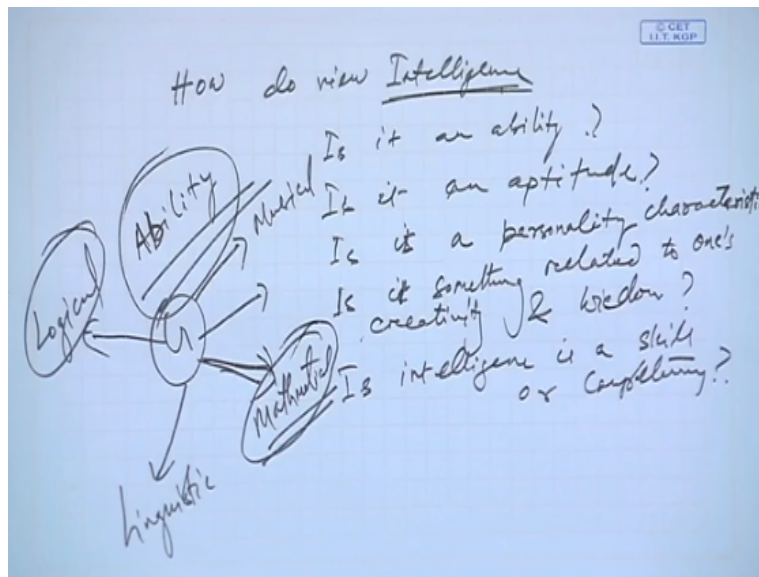


However in the year ninety six Neisser and his colleagues they define intelligence in terms of individual ability to understand complex situations to adapt effectively to the environment to profit from the experience and learn effectively to engage in various forms of reasoning and to overcome obstacles by utilizing careful thoughts.

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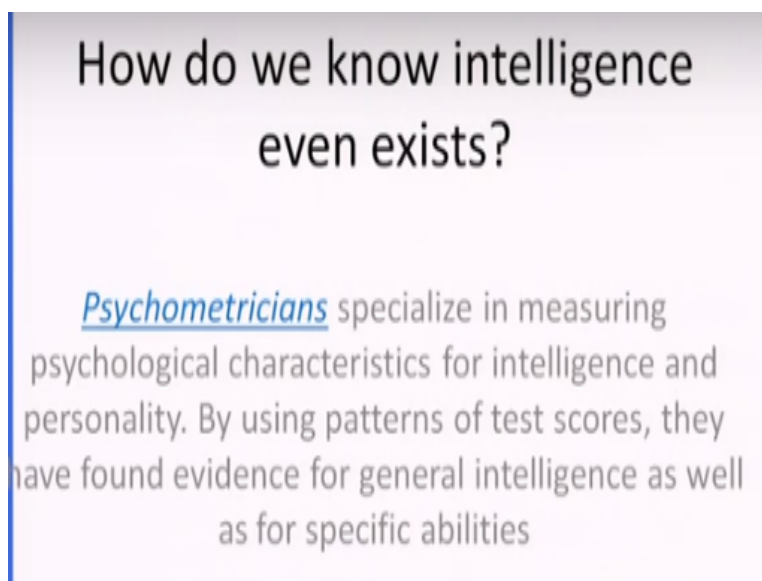
When we look into all these concepts what exactly how we are viewing out of all this definitions how do we view intelligence? Is it ability? Is it an aptitude? Is it a personality characteristic? Is it something related to one's creativity and wisdom? So this is some possible questions that often

comes to our mind when we discuss human intelligence which is very complex in its nature. In addition to this there are some people also said that is intelligence a skills or competency?

So professionals have used this concepts on the basis of conceptualization their ideas regarding the concepts and the context they applied they have tried to use it in different ways but the mainstream of the concepts resides. Our surrounds across the cost of that is called intelligence is nothing but once ability.

Well if this is called once ability that egt a single entity what we call the general intelligence or easy product of meanings or various kinds of intelligence like safer cognitive intelligence refers to one's reasoning that we call logical intelligence, some people call musical intelligence, some people call linguistic intelligence you know some people also call mathematical intelligence. So most of the cognitive intelligence related to logical mathematical abilities because involves numbers, calculations etc.,

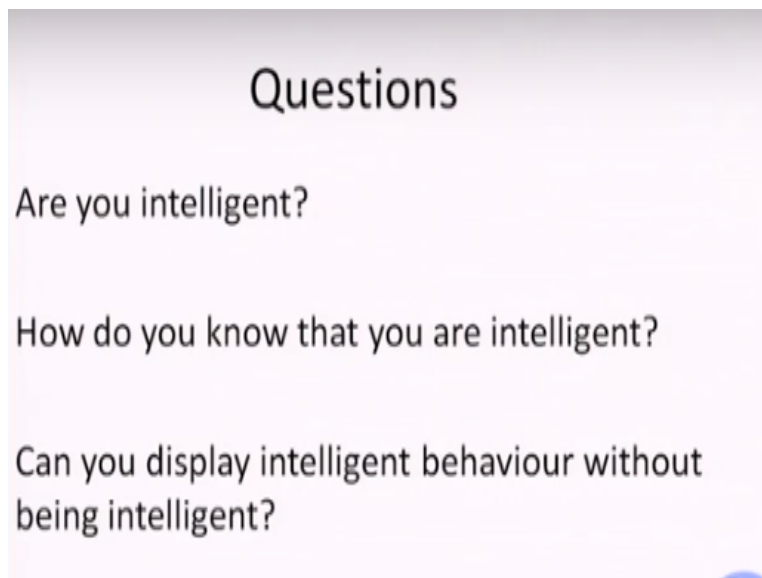
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So let us see when you talk about there can be various kinds of intelligence cognitive, social, emotional, practical in terms of this intelligence we can view some of the theories that they come with one the principles that is known as psychometrics that says that whether it is a single entity or a global entity or it is concepts of different factors. How do we intelligence even exists.

So psychometricians, psychologist having expertise in metrics principles specialized in measuring psychological characteristics for intelligence and personality by using patterns of test scores they have found evidence for general intelligence as well as specific abilities. So this has been the root cause of or the roots of knowing about yes there is something intelligence exists in the field of psychology.

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About still there are several question pursuits when you say that are you intelligent I often used to ask in my class to my students how many of you think that you are intelligent, even if you are we are selecting the best mind of this country India. So IIT's are known as LED institutes in our country and we say that we are dealing with we are teaching the crimps of India in terms of mental capacity.

But still then when I ask this questions how many of you think they are intelligent and I could see the reaction on their face all around in the class everybody gets talk at thinking as if they are not sure of or why his teacher why his professor asking us knowing fully that we are the best mind but yes it has reasons.

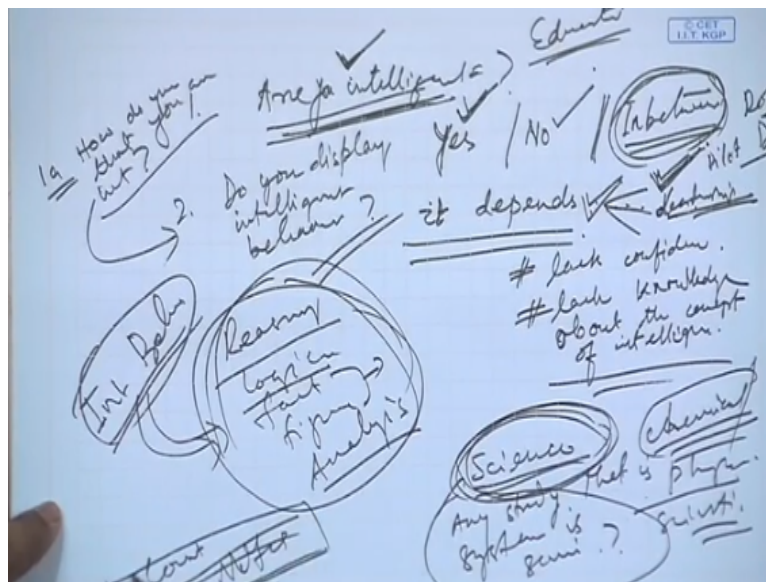
Can it be possible also that without knowing our self whether we are intelligent or not but we are engaged in intellectual activities. So that is why I want to bring out the difference between intelligence and intelligent behavior. There are many people who are illiterate but very often they

display intelligent behavior like say for example driving a Mercedes Car that technically which is very complex to operate is found to be many times easier than a person who lives in metro well educated, skillful but if you ask the same person go to downtown sub urban area into the village and climb up to the top of the bamboo tree.

Most probably will find the person is very hesitate to do that because he lacks skills to climb up to the bamboo tree would you call the person the illiterate person in the village who does it within few fraction of a minute or you can say seconds does the job very effectively is inferior in terms of intelligence than a person who drives Mercedes in the metro town that is where I used bring out the distinction between intelligence and intelligent behavior. So that is why I used to ask my students are you really intelligent?

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How do you intelligent questions question are for example in term of the students this creates a question in



know that you are now my next are you in first you intelligent? Say if I get my answer yes or no. Most of they say it depends million dollar my mind.

Why people says it difference because is it that the situation plays a very important role to determine one's intelligence that is the subject matter of discussion or is it lack of confidence but most of the cases I found it is lack of knowledge about the concept of intelligence. What is that lack of knowledge because most of them never undergone any kind of intelligence testing starting from their school days to the current stage.

So that is well but I usually say the answer should be very simple if you are intelligent you simply say, yes I am intelligent if you are not intelligent ya know I am not intelligent either in

between yes some answers are there some people were undecided then either they let their lack of confidence and they do not know the level of the intellectual profile.

So that is why they say sir it depends sometimes I am intelligent sometimes I am not, this is also possible it depends I can because I can solve a complex mathematical problems where I find myself a very intelligent person but if somebody asks you, can you deliver a leadership lecture the person thinks four times, five times, six times.

I am not confident on delivering public speech but I am confident of developing a design of what you say pilotless drone. I can create a robot so that is why it is essential to know fast are you intelligent? It is very simple everybody's I mean to my understanding I think everybody is intelligent irrespective of education right. So the only difference is how much exposure you have to that domain. When you say do you display intelligent behavior?

Now again this answer to this question depends on the answer to first question because you are understanding about the intelligence will be clear. So when I ask are you intelligent somebody say yes I am intelligent then how do you know my question. Next questions are 1a how do you know that you are intelligent here the answer will be given by this. Do you display intelligent behavior what are those intelligent behavior reasoning, logic, facts figures, and analysis.

So this is some of the bases of what we call intelligent behavior it is are similar as defining signs. When you ask how do you define signs people say only those are scientist who conduct chemical experiments this is that notion people hold to their minds, Anybody who creates physical experiments, chemical experiments, biological experiments are known to be scientist no that is not the actual definition of science.

The actual definition of science any study that is systematic is science. It requires planning, organizing, executing, analyzing and drawing conclusions. So these are certain steps involve completing the whole sequence of the process of science. Similarly in case of analyst anybody who is displaying or who is engaged in intellectual activities are such as analysis, reasoning, a

putting logic into particular framework provide proving something on the basis of facts and figures is known as intelligent behavior.

So then we go further can you display intelligent behavior without being intelligent we often see in vegetable shops, we often see in grocery shops, you will find most of the grocery shop keepers are illiterate but when it comes to their accounting their notes you will find errorless counting.

They are very good at number games they can easily calculate that they have brought vegetable what kilo this and he has brought one quintal of brinjal from the market at what rate he should fix for selling so that he can or she can have hundred rupees or five hundred rupees profits. It takes no time to filter it and that is how they display intelligent behavior and similarly also in case of educated people.

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## What is Intelligence?

Intelligence is an inferred process that humans use to explain the different degrees of adaptive success in people's behavior

- The mental abilities that enable one to adapt to, shape, or select one's environment
- The ability to judge, comprehend, and reason
- The ability to understand and deal with people, objects, and symbols
- The ability to act purposefully, think rationally, and deal effectively with the environment

So these are some of the ways we look into the concept of intelligence when we are engaged in dialing and deliberating the concept of intelligence. Intelligence therefore is info process that humans use to explain the different degrees of adaptive success in people's behavior how quickly one adopt to different situations and this concepts of mental ability that enable one to adapt to say select one's environment.



The ability to judge comprehend and reason it also involves once ability to understand and deal with people object and symbols. It also refers to the ability of the person to act purposefully think rationally and deal effectively the environment. So this this all displaced all the examination of the concept and the definition that we have discussed so far this is the summary of the analysis about the concept of intelligence.

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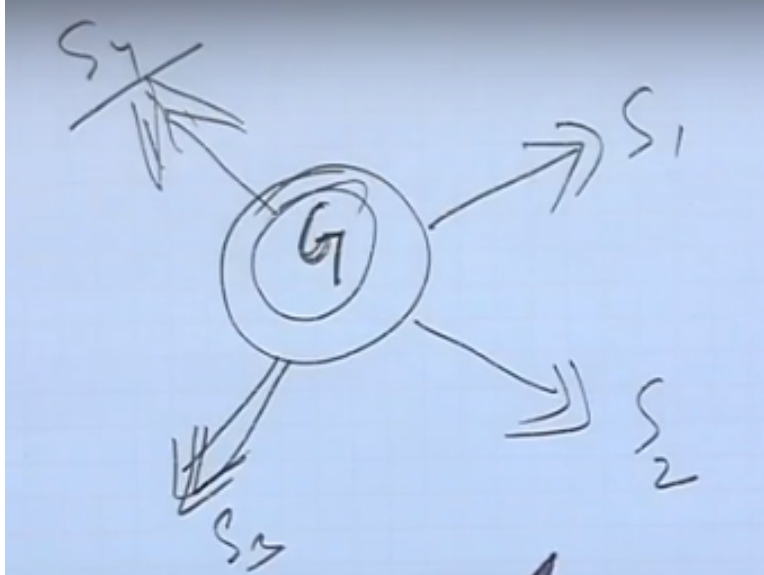
### Spearman's Psychometric Approach - Intelligence as a Single Trait

- Psychometric Approach
  - The measurement (metric) of individual differences in behaviors and abilities
- George Spearman reported findings supporting the idea that performance on any test of mental ability was based on a single general ability factor that he termed "g"
- Spearman also believed that performance on any test of mental ability required the use of a specific ability factor that he termed "s"

However when we look into particularly difference approach for understanding intelligence say for examples like spearman's psychometric approach here we see that based on the psychometric approach the measurement or the matrix that we apply for analyzing individual behavior.

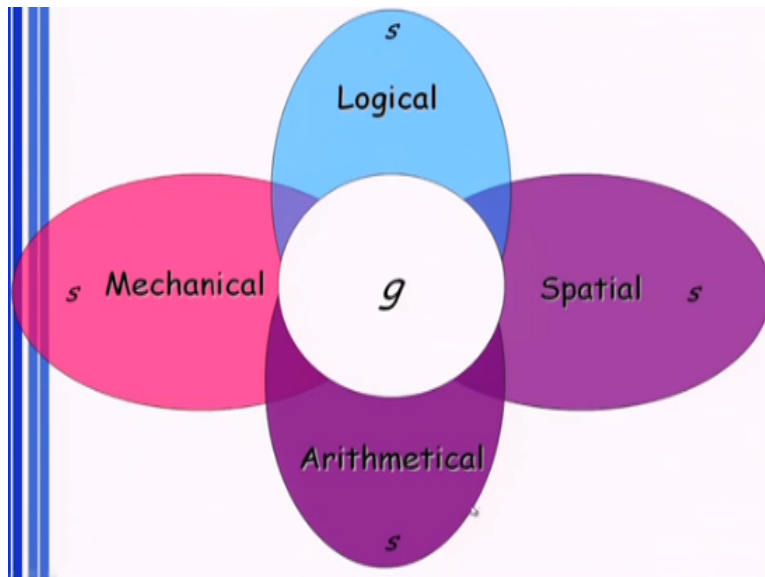
We find the difference in him human behavior and abilities say for examples spearman reported finding supporting the idea that performance on any test of mental ability was based on single general ability factor that he termed "G". Spearman also believed that performance of any test on mental ability required the use of specific factor that is termed "S".

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So that is how from Spearman moved from the concept of G to S some people say that if G is machine of human intelligence these are the different kind of wheels that are run by the engine. So these are S1, S2, S3 and S4

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So moving from the theory of Spearman this is how the model of Spearman G factor and S factor represents different abilities of human intelligence.

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Conflicting theories have led many psychometric theorists to propose hierarchical theories of intelligence that include both general and specific components

Conflicting theories have led many psychometric theories to propose hierarchical theories of intelligence that include both general and specific components.

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### Cattell's View of Intelligence - Intelligence as a Few Basic Abilities

#### Fluid Intelligence

- The ability to think on the spot and solve novel problems
  - The ability to perceive relationships
  - The ability to gain new types of knowledge

#### Crystallized Intelligence

- Factual knowledge about the world
  - The skills already learned and practiced
  - Examples
    - Arithmetic facts
    - Knowledge of the meaning of words
    - State capitals


However we have discussed in our earlier classes that catalogues given a theory that consists of two important domains one is called fluid and crystalized intelligence. A fluid intelligence our ability to perceive relationships the ability to gain new of knowledge this kind of intelligence often develops with the experiences exposures and with time.

But the crystalized intelligence are experience the true are gather to a arithmetic facts, knowledge, meanings, words and state special activities. So this is factual knowledge about the world. So the fluid intelligence are what we call the componential while the crystalized intelligence are called the contextual.

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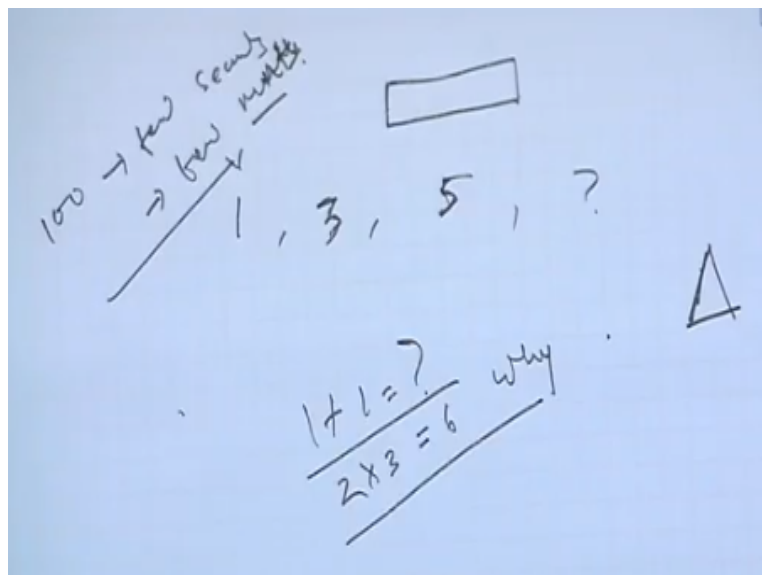
### Intelligence Tests and Basic Abilities

- Fluid intelligence on tests is measured by:
  - The ability to assemble novel puzzles
  - The ability to determine the next entry in a series of numbers
  - The ability to identify which one of four objects is related to the others
- Children who do well on one test of fluid intelligence usually do well on other tests of fluid intelligence
  - They may no necessarily perform well on tests of crystallized intelligence



But when you talk about intelligence tests and basic abilities the fluid intelligence on test is measured by the ability to the simple novels puzzles, ability to determine the next entry in a series of numbers say for examples if that there is a series of a number there is a task called series completion.

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1000 → few seconds  
→ few minutes

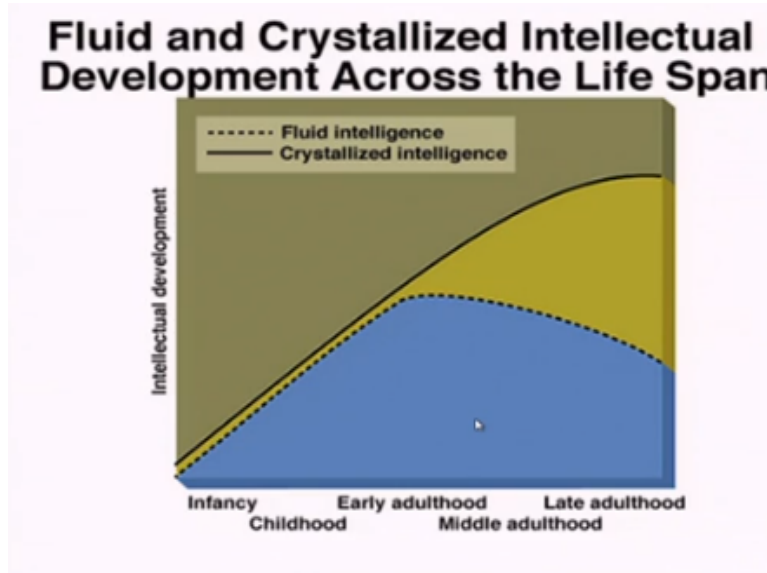
1, 3, 5, ?

1+1=?  
2x3=6 why

△

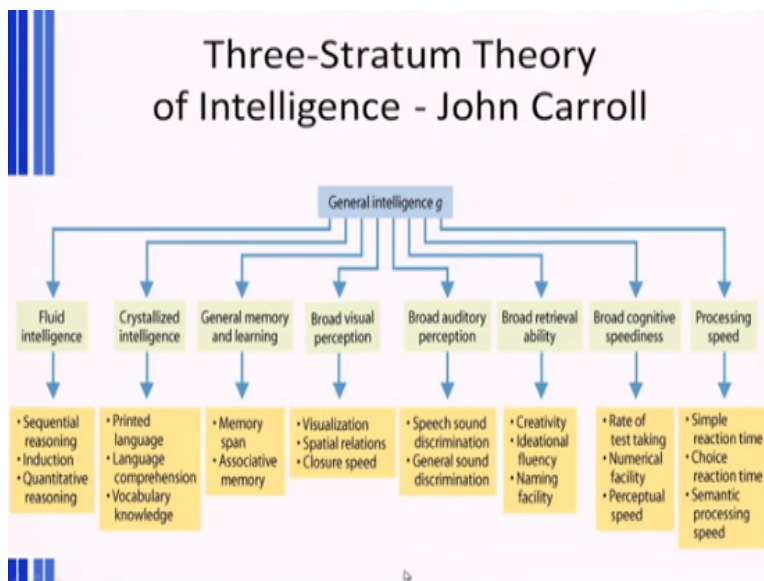
There are numbers like 1, 3, 5 what will come next? So this is how we determine one's numerical abilities so and there are also test like this is called series completion there is called odd man out the series of object among who is does not match with the rest of the group where we try to find out. Whether the person has developed the ability to differentiate among objects?

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The this depicts this figure shows the developmental starters of one's fluid and crystallized intelligence starting from infancy to childhood, early childhood, middle hood and then let middle hood. So it shows that how fluid intelligence declines with age.

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Three stratum theory of intelligence this was given by John Carroll this was that how different abilities extracted from the concept of general intelligence.

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Carroll's hierarchal theory is essentially a compromise between general and distinct abilities view of intelligence

Some critics still find it unsatisfactory because it ignored the research and theory on cognitive development

So Carroll's hierarchical theory in fact is essential a compromise between journal and distinct abilities that view intelligence as a whole. But some critics still find it is unsatisfactory because it ignore the research theory of cognitive development.

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## Broader Theory of Intelligence

- Howard Gardener proposed a theory of *multiple intelligences*, in which he identified 9 distinct types of intelligence.
- The first three intelligences are included in psychometric theories of intelligence:
  - Linguistic intelligence
  - Logical-Mathematical Intelligence
  - Spatial Intelligence

However the broader theories of intelligence have latter been conceptualized by many other psychologist such as Horward Gardener who gives the very extensive theory of the concept of

human intelligence proposing multiple theory of intelligence where he first tries to highlight three important intelligence or intelligent domains in terms of psychometric principle in linguistic intelligence, logical mathematical intelligence and special intelligence.

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### What Do These Intelligences Examine?

- Linguistics - sensitivity to the meanings and sounds of words, mastery of syntax, appreciation of the ways language can be used
- Logical-Mathematical - Understanding of objects and symbols and of actions that be performed on them and of the relations between these actions, ability to identify problems and seek explanations
- Spatial - capacity to perceive the visual world accurately, to perform transformations upon perceptions and to re-create aspects of visual experience in the absence of physical stimuli

So what are these three what do these intelligence examine the first one is say for example is like linguistics intelligence this refers to the sensitivity to the meaning, sound of the word the master of syntax appreciations of the where language can be used like when say for examples somebody where very poor in mathematics but very good in composing songs.

Somebody cannot compose song but he can very correctly, meaningfully, melodiously can sing a song that can impress thousand people so that is where it comes into important play as a market of intelligence because that sensitize people with meaning that the sounds of words are so coherent that (( )) (26:18) to a mass of people and the syntax are massed in such a way their well phrased, well pronounced and the appreciation of language is effective when it reaches when it appeals when it attracts thousands of audiences.

So that shows power of linguistic intelligence in terms of logical mathematical ability it refers to one's understanding of objects, symbols of accents that be that can be performed on them and of the relations between this actions. It also refers to the ability to identify problems and seek

explanation (()) (27:08) like mathematical formula (()) (27:12) 1+1 what could be the answer why 2 into 3 = 6.

Why this kind of understanding is nothing but the reflection of logical mathematical ability it also shows that the special ability is also the one sign of intelligence because it is the capacity to perceive and visualize the world accurately to perform transformations upon perceptions and recreate the aspects of visual experiences in the absence stimuli separate examples how do we know that this is pen or that is pencil this is very simple examples.

What constitute to call you as a girl and call him as a boy so instead of objects events how do we perceive them as a whole? What is that special figural relationship why we call this is a chair and that is a table. So what is the so while pursuing as a whole who look into who look into all these aspects different aspects of the objects into consideration and possibly as a whole. How do we perceive that this is a triangle? How do we perceive that this is a rectangle the perception of this figure as a whole, as an as a rectangle is nothing, but sign of once special relations?

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### Gardener's Theory of Multiple Intelligence

- Gardener's remaining 6 distinct intelligences are unique to Gardner's theory:
  - Musical
  - Bodily-kinesthetic
  - Interpersonal
  - Intrapersonal
  - Naturalistic
  - Existential intelligence

Well then Gardener go further explaining the other abilities like musical abilities once can compose very well.

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## What are these Intelligences?

- Musical - Sensitivity to individual tones and phrases of music; an understanding of ways to combine tones and phrases into larger musical rhythms and structures, awareness of emotional aspects of music
- Bodily-Kinesthetic - Use of one's body in highly skilled ways for expressive or goal-directed purposes, capacity to handle objects skillfully
- Interpersonal - Ability to notice and make distinctions among the moods, temperaments, motivations, and intentions of other people and potentially to act on this knowledge
- Intrapersonal - access to one's own feelings, ability to draw on one's emotions to guide and understand one's behavior, recognition of personal strengths and weaknesses
- Naturalistic -- sensitivity and understanding of plants, animals, and other aspects of nature
- Existential - sensitivity to issues related to the meaning of life, death other aspects of the human condition

One can synthesize hmmm a song to be sung in a particular way bodily kinesthetic intelligence this is also equally important it refers to the use of body in highly skilled ways for expressive our goal director purposes and capacity to handle objects skillfully. So that is how people excel in sports and games. Say for example how a person cross a hundred meter hurdles within few seconds while another person does the same by few minutes. Okay we will take it further after short break thank you.