INTELLIGENCE

For most of my 85 years, I have battled with the concept of intelligence. I know that is not a common item at the top of your list, but it is with mine. It first came to my attention when my older sister came back from high school, sometime in the late 1940's and told my mother and grandmother that her I.Q. was 145.

I had no idea what that meant. I am also sure that my mother and grandmother knew nothing about that concept. We all knew that my sister was very bright, but that's about it. She felt good about it, so I did too.

By the time I went to junior high school in 1950, the concept once again reared its head. There were some very bright young people who were put in a class called SP. I believe it stood for special progress. The idea was to give these kids some extra experiences and also move them ahead of others by one year.

So there was a 7SP, and 8SP. I do not believe that there was a 9SP because by that time, the SP children were already in high school and placed in the most advanced classes.

That was the last time I was faced with the I.Q. until I was in the military. In September of 1957, I was shipped off to Germany to serve as a radio teletype operator in the 97th signal batalion. The army was then trying to get rid of non-coms. There were just too many of them, who had been there since WWII.

Some of the non-coms were in our outfit. For some reason (maybe it was my glasses) some of these non-coms came to me and told me that they would be removed from the service if they did not attain a 90 I.Q. By that time, having a year and a half at Queens College, I had some idea of what that meant.

I did know that there was no way that I could help them attain that score. I also knew that jacking up your I.Q. after a certain time, or maybe even ever, was impossible. I did not tell the non-coms that, but told them that I had no idea how to do it. I do know that a number of these non-coms were shuffled out of the Army. I really felt for them after their years of service.

When I returned to civilian life and re-entered Queens College in 1959, I became a history major and education minor. That began my serious interest in how children learn and how some children do not learn. I.Q. came up frequently during those years. I will tell you that I was very suspicious of the standard definition of intelligence.

I was never a researcher in the area of intelligence. I did get some snippets of information about how children learn- visual, aural, kinesthetic. I later learned about left brain right brain and emotional intelligence. I could not get it out of my head that there was something wrong with categorizing children by a specific number.

As I was a teacher, later an administrator and even later as a consultant, I saw in children, things that convinced me that attaching a number to a child was sheer nonsense. Was it true that most often people with higher numbers succeed more often than those with lower numbers?

I.Q.s have sometimes been used by authoritarian regimes to remove the "unwanted" from the population. This activity called "eugenics" has even been suggested by well- known people here in our own country. Take a look at your web browser to see some unexpected names.

During the early 1900's, the French Government wanted to find out which students were most likely to struggle in school. The French Government had just passed laws making school attendance compulsory. It was for this reason that it seemed a good idea to identify which children would need special assistance as early as possible. Binet, with

the help of his colleague Theodore Simon, began to work on a question set that would let them assess a person's ability to solve problems, remember facts and assess their attention span. This set of questions then formed the foundations for allowing them to predict likely success in school.[1]

Strange that the origin of the I.Q. test began with a search for a test that would help those children who were having problems in schools. So the I.Q. test was created. The Stanford-Binet test is still in use, but a later I.Q. test (WAIS) has pretty much replaced it.

What about Lewis Terman and his involvement in the creation of the I.Q. test? Terman was a psychologist educated at Clark University. I can tell you that even today, Clark is a haven for psychology education. My daughter has a degree from Clark as does her husband, one of my good friends and my son-in-law's parents and sister. Clark is the only university in the U. S. that Sigmund Freud taught in.

So it is not unusual to find that Terman graduated with an intense interest in psychology. He did advance the I.Q. test for America. His tests were used by the military for recruitment purposes, as well as segregating troops during W.W. I. His long- term interest in gifted and talented children caused him to study a group of such children.

In his "Long Term study of Genius" he followed a group of such children this study continued even after his death. One of those children was Richard Milhaus Nixon. You will not be surprised to learn that these tests began what we know as "Tracking Systems"- segregating children by I.Q. scores.

In the final instance, Terman believed that education and genetics prescribed the intelligence quotient of children. It was also used by others to rationalize school segregation.

It is difficult for me to go into any detail about JP Guilford. His "The Nature of Human Intelligence" is a vastly difficult tome to read and

comprehend. It has taken me over 10 years just to try and understand his research. Recently he has come under fire for his methodology.

The edition that I have gone through was published in 1967. Guilford described his research as, " The major aim of this volume it to give to the concept of "intelligence" a firm, comprehensive, and systematic theoretical foundation." As for my understanding of his work, he believed that intelligence was not a monovariable concept. There are many intelligences .He does rely to a large extent on Piaget's theories of child development.

Since I am unable to categorize his research, I have taken the liberty of copying the section of Wikipedia, with many references to explain his theories.

Structure of Intellect theory

According to Guilford's Structure of Intellect (SI) theory (1955), an individual's performance on intelligence tests can be traced back to the underlying mental abilities or factors of intelligence. SI theory comprises up to 180 different intellectual abilities organized along three dimensions: operations, content, and products.

The Structure of Intellect Theory advanced by Guilford was applied by Mary N. Meeker for educational purposes.[4]

Operations dimension

SI includes six operations or general intellectual processes:

Cognition - The ability to understand, comprehend, discover, and become aware of information

Memory recording - The ability to encode information

Memory retention - The ability to recall information

Divergent production - The ability to generate multiple solutions to a problem; creativity

Convergent production - The ability to deduce a single solution to a problem; rule-following or problem-solving

Evaluation - The ability to judge whether or not information is accurate, consistent, or valid

Content dimension

SI includes four broad areas of information to which the human intellect applies the six operations:

Figural - Concrete, real world information, tangible objects, things in the environment - It includes A. visual: information perceived through sight, B. auditory: information perceived through hearing, and C. kinesthetic: information perceived through one's own physical actions

Symbolic - Information perceived as symbols or signs that stand for something else, e.g., Arabic numerals, the letters of an alphabet, or musical and scientific notations

Semantic - Concerned with verbal meaning and ideas - Generally considered to be abstract in nature.

Behavioral - Information perceived as acts of people (This dimension was not fully researched in Guilford's project. It remains theoretical and is generally not included in the final model that he proposed for describing human intelligence.)

Product dimension

As the name suggests, this dimension contains results of applying particular operations to specific contents. The SI model includes six products in increasing complexity:

Units - Single items of knowledge

Classes - Sets of units sharing common attributes

Relations - Units linked as opposites or in associations, sequences, or analogies

Systems - Multiple relations interrelated to comprise structures or networks

Transformations - Changes, perspectives, conversions, or mutations to knowledge

Implications - Predictions, inferences, consequences, or anticipations of knowledge

Therefore, according to Guilford there are 5 x 5 x 6 = 150 intellectual abilities or factors (his research only confirmed about three behavioral abilities, so it is generally not included in the model). Each ability stands for a particular operation in a particular content area and results in a specific product, such as Comprehension of Figural Units or Evaluation of Semantic Implications.

Guilford's original model was composed of 120 components (when the behavioral component is included) because he had not separated Figural Content into separate Auditory and Visual contents, nor had he separated Memory into Memory Recording and Memory Retention. When he separated Figural into Auditory and Visual contents, his model increased to 5 x 5 x 6 = 150 categories. When Guilford separated the memory functions, his model finally increased to 180 factors.[5]

Criticism

Various researchers have criticized the statistical techniques used by Guilford. According to Jensen (1998), Guilford's contention that a g-factor was untenable was influenced by his observation that cognitive tests of U.S. Air Force personnel did not show correlations significantly different from zero. According to one reanalysis, this resulted from artifacts and methodological errors. Applying more robust methodologies, the correlations in Guilford's data sets are positive.[6] In another reanalysis, randomly generated models were found to be as well supported as Guilford's own theory.[7]

Guilford's Structure of Intellect model of human abilities has few supporters today. Carroll (1993) summarized the view of later researchers:[8]

"Guilford's SOI model must, therefore, be marked down as a somewhat eccentric aberration in the history of intelligence models. The fact that so much attention has been paid to it is disturbing to the extent that textbooks and other treatments of it have given the impression that the model is valid and widely accepted, when clearly it is not.2

Guilford's writings are no longer in the favor of most current research as you can see from the criticism that he engendered. Even if his work is an "aberration," it opens up a door to modern views of intelligence.[4]

Howard Gardener has proposed that there are multiple intelligences-

Linguistic Intelligence (word smart)

Logical-Mathematical Intelligence (number/reasoning smart)

Spatial Intelligence (picture smart)

Bodily-Kinesthetic Intelligence (body smart)

Musical Intelligence (music smart)

Interpersonal Intelligence (people smart)

Intrapersonal Intelligence (self-smart)

Naturalist intelligence (nature smart)

Critical Evaluation[3]

He described his theory in "Frames of Mind." He later elaborated in " Multiple Intelligences." He has a set of discrete variables. He explained how he chose these intelligences. The time between his Frames of Mind and the Multiple Intelligences is twenty five years. His second book appears to be more explicit and details where in the brain these functions exist.

 The variables that he uses a number to identify intelligences. His understandings of these variables begins with biological information, cultural components, and developmental (mostly from Piaget). He relies on studies of the gifted, savants, brain injured, prodigies and the autistic.

At this point, Gardner has many followers who have expanded on his theses and a host of critics.

There are a number of current theories of intelligence. The list is too long for my feeble brain to comprehend. The URL below gives a contemporary look at these theories and a small history of how the IQ tests have evolved.[5]

https://www.verywellmind.com/theories-of-intelligence-2795035

 Peter Salovey and John D. Mayer were the original promulgators of Emotional Intelligence. Daniel Goleman presented the theory to the lay

public. and further developed it. In recent times, the theory has gained prominence as EQ.

The basics of Emotional Intelligence comes from a background in human relations. The simplest way of explaining the concept is Understanding and managing your own emotions and comprehending the emotions of those with whom you come into contact.

Interpersonal skills allows one to understand how one interacts with others successfully. Goleman had access to many business leaders and was able to do studies of them and their success. It appears that IQ advanced degrees and experience are not the most important factors in their success. "Self awareness, self-confidence and self-control; commitment and integrity; the ability to communicate and influense, to initiate and accept change." Were the prime factors in their successful careers."[4]

Carol and I ran into Strengths Finders during our stint giving out scholarships to first generation rural students in West Virginia, Pennsylvania and New York. One of the billionaires who funded the program told us about this program that identified 34 strengths of people.

Through a kind of inventory set of questions the strengths were identified and then put into order. We did use them in our last year of running the program at our one week session with new scholarship winners at Mansfield University in northeast Pennsylvania.

Carol and I also took the inventory. It had to be hosted by a qualified trainer. Each of the scholars and 4 mentors also took the inventory. The program was developed by the Gallup Corporation. They are the authors of the Gallup Poll.

Of the 34 strengths, Carol and I found the answers to be as on target as possible. However, there was even a more direct description of one of our mentors.

There is only one acronym in the list of 34 strengths. That one is called WOO- Winning Others Over. Let me describe the epitome of WOO. Kyle was one of our mentors. We had chosen him for a scholarship when he was a senior in high school. At this time, he was a rising sophomore in college.

Kyle was a rather plain young man. There was nothing extraordinary about Kyle that one could see. You might not even pick Kyle out from a crowd. Not that he was not well spoken or bright or even handsome. He was just a regular guy.

On the first night of our program at Mansfield, we perused the dorms at about 8 o'clock to make sure that all the new scholars were in their room. All of the rooms were empty save one. In that room sitting around on the floor were all the new scholars and Kyle.

When reviewing the results of the Strengths Finders assessment we saw that Kyle's major strength was WOO. In Kyle's junior year, Kyle got a job in the alumni office soliciting donations. He was, to say the least, almost phenomenal developing funds. He also had that job in his senior year. His university wanted him to stay on and also get a Master's degree.

Kyle elected to go to another university where he was equally successful. He was also sent out to meet alumni. Towards that end, the university purchased five suits, shirts and ties for him. In the last iteration or his career, he selected another university closest to his home in PA and is being equally successful.

Although this anecdotal information does not pass the statistical test, it does open up some doors to some further thinking about what intelligence really is. For further information about Strengths Finders. There is a book by Tom Rath with the title Strengths Finders 2.0.[5]