12.2: Defining Intelligence

How intelligent do you need to be to be a good critical thinker, arguer, and decision maker? Many definitions of intelligence exist and there are as many different theories about what intelligence is and how it is measured.

David Wechsler, the creator of a number of intelligence tests, considers intelligence to be the capacity to understand one’s world and the resourcefulness to cope with its challenges. Intelligence is not only how much one knows about their environment, but also how effectively one uses that information.

Psychologists Sternberg, Conway, Kerton and Bernstein researched what the American people thought being intelligent meant.¹ They concluded that “you” felt intelligence consisted of the following three sets of abilities:

- **Problem solving and practical skills** include being able to reason logically, to identify connections among ideas, to see all aspects of a problem, to take an interest in world problems, and to keep an open mind.

- **Verbal ability** includes speaking clearly and articulately, conversing well, being knowledgeable about subjects of importance on a global level, studying hard, reading widely, and having a good vocabulary.

- **Social competence** is being able to accept others for what they are, admitting mistakes, having a social conscience, and being sensitive to other people’s needs and desires.

The late child psychologist Jean Piaget believed that intelligence was a form of adaptation. As children grow up they construct their knowledge of the world around them through the use of assimilation and accommodation. Piaget theorized that as children interact with both their physical and social environments, they organize new information into groups of interrelated ideas that he called **schemes**. In situations where children come into contact with something new, they must either assimilate it into an existing scheme or create a new scheme. The more proficient they are at doing this, the more intelligent they would be displaying.²
Adaption is both physical and symbolic. The physical relates to your actual psychomotor skills that allow you to adapt to different environments. Environment can mean anything from family, to school, to work, to social, to recreational settings. Each of these environments requires that certain roles be played for you to meet the requirements and expectations of that particular environment.

Physical intelligence involves the use of your motor skills in adapting to varying situations. Babies are born with virtually no physical intelligence. They cannot survive without the assistance of those who are more physically capable. Physical intelligence develops with the growth process.

As a child gets older the structure, conventions, traditions, and demands of the family create new and more complex expectations for the child. By age one the child might be expected to walk, by age two to talk, and by age three to be toilet trained. By the time the child reaches his or her teen years the expectations have become much more demanding. The child is to perform well in school, be involved in some constructive outside activity, help with necessary functions around the home, and obey established rules of behavior. What child hasn’t heard the line “This is my house and as long as you live here you will obey my rules?”

Many parents become frustrated from wondering why their child can’t follow what they consider simple rules of conduct? As the child gets older and understands more, he or she is expected to be able to readily adapt to the changing family environment. Yet, thousands of children run away from homes across the United States. High school dropouts, people who consistently quit their jobs or can’t hold a job, and many marriages that end in divorce, could all qualify as examples of the inability to cope with differing environments. In many of these situations, a lack of physical intelligence is being displayed.

Symbolic adaption is your ability to communicate within an environment, so that you can make your needs, wants, and desires known to others. Given their ability to cry, babies are born with a limited amount of symbolic intelligence. New parents soon learn to recognize the difference between a baby crying for food, to be changed, or just to be held. As one grows, the level of symbolic sophistication increases. Language is added to enable a person to express himself or herself to others using a variety of word choices. One aspect of language is the process of selecting available symbols to match specific thoughts.

As children learn to speak they begin to acquire different symbols. A small child might refer to all four-legged animals as a “doggie,” because that is the only word he or she has learned as a symbol for animals. It is expected that a 3 or 4-year-old child will be able to distinguish between dogs, cats, cows, horses, etc. As an adult, one can be expected to know specific breeds of those animals.

The process of communication is essentially the symbolic interaction between sender and receiver. Poorly chosen symbols have sent many a person scrambling to clarify what they feel is misinterpreted communication. All of us have used language we later wish we hadn’t. These are the times when we have demonstrated a lack of symbolic intelligence. Critical thinkers try to remember the old cliché, “Think before you speak.”

Howard Gardner of Harvard has proposed a theory of multiple intelligences. In this approach, Dr. Gardner states that there is not one overall intelligence measurement that describes a person. Instead, there are different types of intelligence and a person may be good at one or more, but not others. The line that is used when talking of this approach is that “It is not how intelligent you are, it is how you are intelligent.” Dr. Gardner
argues that there are eight different kinds of intelligence:

- **Linguistic** intelligence or verbal communication.
- **Logical mathematical** intelligence is the ability to solve mathematical problems.
- **Spatial** intelligence is the ability to perceive the world accurately.
- **Musical** intelligence is the ability to perceive and create musical information.
- **Body-kinesthetic** intelligence is the control of body motion and ability to handle objects.
- **Intrapersonal** intelligence is the ability to know one’s own feelings.
- **Interpersonal** intelligence is the ability to understand others’ feelings and motives, and to communicate that understanding.
- **Naturalist** intelligence is the ability to understand the natural world, which involves describing and categorizing the characteristics of plants and animals.

Gardner argues that each kind of intelligence is independent of each other and that a person could do poorly on one or more of the intelligences, but excel in another. Gardner says,

> “People studying physics, or chemistry or biology or geology in high school, I would say it doesn’t make the slightest bit of difference. They should study some topics, of course, but the choice is wide open—I’m interested in depth, not breadth. I’m not talking about college education; I’m just taking on K to 12. What I want when kids get through a K to 12 education is for them to have a sense of what their society thinks is true, beautiful and good; false, ugly and evil; how to think about it and how to act on the basis of your thoughts.”

Yale University psychologist, Robert S. Sternberg, also argues that we don’t possess just one type of intelligence. He states that we possess three types of intelligence known as the **Triarchic Theory of Intelligence**. He argues that there are three facets that make up what we call intelligence.  

**Analytical Intelligence**, which is internal knowledge of the type learned in formal education and displayed in the ability of the human to critically think and problem solve.

**Creative Intelligence** involves insight, synthesis, and the ability to react to novel stimuli and situations. This type reflects how an individual connects the internal world to external reality.

**Practical Intelligence** involves the ability to grasp, understand, and solve real life problems in the everyday jungle of life. This reflects how the individual relates to the external world about him. In short, practical intelligence is **street smarts**.
Sternberg writes,

“The basis for our instruction is my own ‘balance theory’ of wisdom: People are wise to the extent that they use their intelligence to seek a common good. They do so by balancing, in their courses of action, their own interests with those of others and those of larger entities, like their school, their community, their country, even God. And they balance these interests over the long and the short terms. They adapt to existing environments, or shape those environments, or select new environments to achieve ends that include, but go well beyond, their own self-interest.”6 (Sternberg, 2009)

Reference