

Multiple Intelligences: Pathways to Success

by Thomas R. Hoerr, Ph.D.

This reference guide presents an overview of multiple intelligences (MI) and provides examples and suggestions for using MI to help students learn through multiple pathways. When MI is incorporated into teaching, students have increased opportunities to learn, and teachers find teaching more interesting and rewarding. Particular attention is given to assessments such as projects, exhibitions and presentations, through which students demonstrate a full range of intelligences.

What is Intelligence?

How we define intelligence has varied over time. For thousands of years, people who were considered smart were those who accomplished tasks, whether hunting an animal, planning a pyramid, using the stars to find their way home or giving advice on relationships. Intelligence was problem solving, pure and simple.









Beginning in the early twentieth century, artificial tests were developed to measure intelligence. They were constructed to identify the extremes of intelligence, and items were included based on their ability to discern among students. Those children who were considered the smartest were those who did the best at selecting among offered choices, and those who were skilled at reading, writing and calculation. We don't know the IQ scores of Michelangelo, Helen Keller, Louis Armstrong, John Muir or Don Bradman, but we do know that standardised tests would not have valued their strongest talents.

Multiple Intelligences: What are They?

When Howard Gardner set out the theory of multiple intelligences in his book, *Frames Of Mind*, he recognised the scholastic intelligences – reading, writing and calculating – but said that they represent only a portion of the ways in which people can be smart. Gardner defined intelligence as “solving a problem or creating a product that is valued in society”. This simple definition greatly expands the notion of intelligence because it means that creating a work of art, leading a group and nurturing an animal all display intelligence.

Gardner's more inclusive definition of intelligence is affirmed by numbers of people who are successful in life, although they struggled in school and may not have been considered intelligent in the traditional sense. Of course, schooling is important, and students need to learn how to read, write and calculate. But many other ways to be smart are too often overlooked in school, despite their importance in life.

The Multiple Intelligences

Intelligence	Definition	End-State	Famous Examples
 Linguistic	Sensitivity to the meaning and order of words	author, poet, speech-writer, orator	Winston Churchill, Toni Morrison, J.K. Rowling
 Logical-Mathematical	Ability to handle chains of reasoning and to recognise patterns and order	scientist, computer programmer, mathematician, puzzle-maker/solver	Stephen Hawking, Marie Curie, Bill Gates
 Musical	Sensitivity to pitch, melody, rhythm and tone	musician, composer, piano-tuner, singer	Celine Dion, Ray Charles, George Gershwin
 Bodily-Kinesthetic (BK)	Ability to use one's body skilfully and handle objects adroitly	dancer, athlete, surgeon, magician	LeBron James, Mia Hamm, Harry Houdini
 Spatial	Ability to perceive the world accurately and to re-create or transform aspects of that world	painter, sculptor, architect, photographer	Ansel Adams, Maya Lin, Frank Lloyd Wright
 Naturalist	Ability to recognise and classify numerous species, the flora and fauna, of an environment	horticulturist, farmer, dog-trainer, geologist	Charles Darwin, Jane Goodall, Gregor Mendel
 Interpersonal	Ability to understand people and relationships	counsellor, politician, leader, salesperson	Dr Phil, Daniel Goleman, Martin Luther King, Jr.
 Intrapersonal	Ability to access one's emotional life as a means of understanding oneself and others	counsellor, confidante, memoir writer	Anne Frank, Oprah Winfrey, Eleanor Roosevelt

What Determines an Intelligence?

Gardner conceived of his theory of MI from his work with patients who had suffered brain injuries. He observed that different functions were lost or impaired based on where an injury occurred in the brain. Some people could walk but not talk; others could paint but not write, and so on. He realised that the notion of intelligence as a single factor (often called G, for “general”) omitted many different capacities. He saw that intelligence was a capacity to solve problems, and that there were many different ways to do this; everyone possesses distinct intelligences.

From his observation and research, Gardner developed a set of criteria to be used in determining what qualifies as intelligence. An intelligence need not meet all of these criteria, but it must exhibit several to qualify:

- Potential isolation by brain damage,
- Identifiable core operation or set of operations,
- Evolutionary history and evolutionary plausibility,
- Susceptibility to encoding in a symbol system.
- Presence in idiot savants, prodigies and other exceptional individuals,
- Distinctive developmental history, along with definable set of expert “end-state” performances,
- Support from experimental psychological tasks,
- Support from psychometric findings,