

The theory of multiple intelligences

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Abstract: *The theory of multiple intelligence (TIM) was an innovative event in human personal development and in the assessment of its potential. It was presented in 1983 by Dr. Howard Gardner, professor at Harvard University, who questioned the limited notion of intelligence based on IQ (intelligent quotient). As a result, the great professor and researcher suggested 7 different exhaustive types of intelligence: the verbal/linguistic, logical-mathematical, spatial, kinaesthetic, musical, intra-personal and interpersonal.*

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1. Introduction

The theory of multiple intelligence (TIM) was an innovative event in human personal development and in the assessment of its potential. It was presented in 1983 by Dr. Howard Gardner, professor at Harvard University, who questioned the limited notion of intelligence based on IQ (intelligent quotient). As a result, the great professor and researcher suggested 7 different exhaustive types of intelligence: the verbal/linguistic, logical-mathematical, spatial, kinaesthetic, musical, intra-personal and interpersonal. Thus, the human intellect was no longer seen only from a restrictive, unilateral perspective (in traditional systems, only mathematical and verbal intelligence), but in its true complexity, as a balance of the forces which constitute the intellect. Artists are aware of the fact that there is a type of musical intelligence, which cannot be assimilated to any other type of intelligence and which is connected to the achievement of specific tasks. It is recommended to use mainly those types of intelligence which capitalise on the children's natural endowment and the skills they had acquired until that particular educational stage.

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2. The problems: the theory of multiple intelligences applied to pre-school children

Damasio describes clearly in his writings the orientation mechanisms that the human brain creates and maintains: *“supporting life is beyond any doubt the primary function of the human brain, but it is not its specific function. Life can be supported without a nervous system. The specific feature of the brain is its strange ability to generate maps. When the brain generates maps, it gains information. The information present in the maps can be used unconsciously to efficiently guide motor behaviour. When the brain creates maps, it also generates images, the main currency of our mind. Consciousness allows us to perceive maps as images, to manipulate these images, and to apply reasoning”* (Damasio 2016, 77). It is precisely the ability to link several types of information, stemming from different areas of reality, supplied by each type of intelligence in part.

From the very beginning, Gardner lists the three main values that each type of education should contain and then convey: *“everybody should concentrate on the content of education, and everything that belongs to it, essential or common: the way in which this content must be presented, acquired, used and transmitted to others. There are three very important aspects which should accompany education: truth (and what is behind it: the false or the indeterminable), beauty (and its absence from experiences, or ugly or kitsch objects), and morality (what we consider to be right or wrong)?”* (Gardner 2004, 16).

Gardner lists the following seven types of intelligence:

1. Verbal or linguistic intelligence (the ability to use words efficiently both orally and in writing). This type of intelligence favours the ability to read, write, narrate, and implicitly to perform the activities mediated by these activities. A child with this type of intelligence will naturally place great emphasis on the stylistic and semantics of language (as means of expression, of communicating deep, poetic, complex meanings).
2. The logic or mathematical intelligence brings to the fore the inductive or deductive reasoning, which facilitate the solution to abstract problems, the capacity to classify.
3. The visual, or spatial, imaginative intelligence refers to the capacity to perceive the surrounding world through the most frequently used sense of the modern times, but also to the ability to be creative in the visual field as a result of a complex perception of space and shapes.
4. Corporeal or kinaesthetic intelligence is concerned with the coordination of the body's physical coordinates through balance, flexibility, a special tactile sense.

5. Musical intelligence (also rhythmic intelligence, although the reality exceeds the concept of RHYTHM), which is manifest through a special attachment to the sonorous stimulus. Training one's hearing, learning to play an instrument, or developing musical creativity represent methods to improve this coordinate. As far as the native musical endowment is concerned, children first of all should be observed based on the moments in which they use musical intelligence: when they sing/play, when they try to reproduce or create songs or metric-rhythmic sequences, when they listen to what others sing/play, when they comment on musical performances. Musical intelligence can facilitate actions and behaviours which have no direct connections with it, given the well-known capacity of music to educate the entire human personality from the youngest ages (distributive attention, affection, awareness of one's own feelings, motility, etc.)

In the article ***How musical training affects cognitive development: rhythm, reward and other modulating variables***, authors Ewa A. Miendlarzewska and Wiebke J. Trost analyze *"the Musician's Brain: Plasticity and Functional Changes Due to Musical Training: Given the engagement of multiple cognitive functions in musical activities, it seems natural that in highly trained musicians brain networks underlying these functions would show increased plasticity. Several recent review papers have critically assessed the effects of musical training on brain plasticity based on neuroimaging literature accumulated to this date"* (Miendlarzewska, Trost, 2014).

Musical Intelligence (Music Smart)

Learning Activities and Project Ideas:

- Writing their own songs and music about content-area topics.
- Putting original poems to music, and then performing them for the class.
- Setting a poem to music, and then performing it for the class.
- Incorporating a poem they have written with a melody they already know.

Fig. 1. Musical Intelligence (Learning activities, project ideas)²

² <http://slideplayer.com/slide/5810620/#>

6. Intrapersonal intelligence, labelled by Gardner as “personal intelligence”, next to the seventh type (together they form the emotional intelligence, measure by EQ).
7. Interpersonal intelligence refers to the capacity to observe and resonate to other people’s emotions, feelings and thoughts, and to react accordingly.

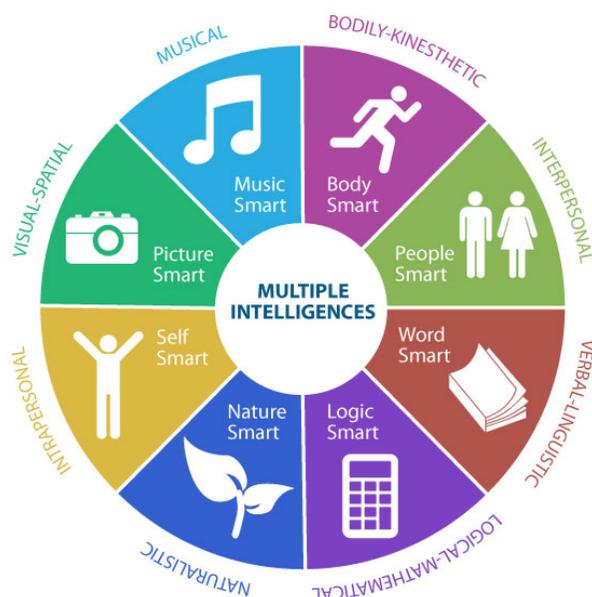


Fig. 2. Gardner’s Multiple Intelligences³

During the pre-school years, children develop spontaneously mainly the fundamentals of language, music, essential mathematics, and other symbolical elements, which “do not depend on explicit learning”⁴. But during the growth and learning process, they acquire a more complete awareness of the entire phenomenon: “my soul is a hidden orchestra, I do not know which instruments, chords and harps, drums and other percussion instruments make noise in me. I only know the symphony” (Damasio, 2016, 77) F. Pessoa states in the fragment Damasio chose as the motto of his book.

³ <https://www.greycaps.com/theteacher/theories/Multipleintelligence>

⁴ <http://www.learn2b.ro/teoria-inteligentelor-multiple-h-gardner/>.

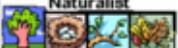
Intelligence Area	Is strong in:	Likes to:	Learns best through:
 Verbal-Linguistic	reading, writing, telling stories, memorizing dates, thinking in words.	read, write, talk, memorize, work at puzzles.	reading, hearing and seeing words, speaking, writing, discussing and debating.
 Math-Logic	math, reasoning, logic, problem-solving, patterns.	solve problems, question, work with numbers, experiment.	working with patterns and relationships, classifying, categorizing, working with the abstract.
 Spatial	reading, maps, charts, drawing, mazes, puzzles, imaging things, visualization.	design, draw, build, create, daydream, look at pictures.	working with pictures and colors, visualizing, drawing.
 Bodily-Kinesthetic	athletics, dancing, acting, crafts, using tools.	move around, touch and talk, body language.	touching, moving, processing knowledge through bodily sensations
 Musical	singing, picking up sounds, remembering melodies, rhythms.	sing, hum, play an instrument, listen to music.	rhythm, melody, singing, listening to music and melodies.
 Interpersonal	understanding people, leading, organizing, communicating, resolving conflicts, selling.	have friends, talk to people, join groups.	sharing, comparing, relating, interviewing, cooperating.
 Intrapersonal	understanding self, recognizing strengths and weaknesses, setting goals.	work alone, reflect, pursue interests.	working alone, doing self-paced projects, having space, reflecting.
 Naturalist	understanding nature, making distinctions, identifying flora and fauna.	be involved with nature, make distinctions.	working in nature, exploring things, learning about plants and natural events.

Fig. 3. Australian curriculum, Thinking resources⁵

The curriculum of many countries in the world has long embraced Gardner's multiple intelligence system, thus making the purely musical intelligence in education valuable. Interestingly, musical intelligence is not assimilated to the aesthetic, but is viewed separately, which is an indication of its importance for its power to shape the human personality.

This exhaustive and nuanced approach fails to offer the arguments for excluding from the field of achievement education certain children who seem to have none of the restrictive types of intelligence mentioned above, but who are artistically endowed, aspect which cannot be highlighted from the beginning through conventional teaching-learning methods (the verbal and logical-mathematical ones used in most schools).

Children must be watched carefully by educational professionals to assess the most efficient methods to reach the set objectives. During the educational process, we must determine the types of intelligence which operate predominantly in a child, by following the actions the child performs and the way s/he approaches them.

⁵ <http://australiancurriculumf-6resources.blogspot.ro/2013/04/gardner-multiple-intelligences.html>

One must also take into consideration the current evolution of values at a different speed of transformation and transmission than a few decades ago, but also their consequences on the educational process: *“in the past, both roles and values evolved slowly. In many societies, the means of transmission have not changes throughout the centuries. Today, values change very fast, although at a balanced pace. Roles change considerably from one generation to another (even from one decade to another), exercising a significant pressure on the educational institutions”* (Gardner 1993, 173).

3. Conclusions. Proposals

The theory of multiple intelligences supports educational objectives which are both innovative and diverse, and take into account the endowment of each individual from the most tender age: interdisciplinary and creative thought – which ensures, in its turn, the fundamental phenomenon of the deep (not superficial, unidirectional) understanding of reality.

Psychologist Howard Gardner stated, in the first edition of his book on multiple (stadial) intelligences in 1993, the fact that *“intelligence should not be conceived as a unidimensional construct, but a series of seven independent intelligences, which allow individuals to display the transformations and changes of the individual perceptions, to recreate aspects of their own experiences”* (Gardner, 1993, 173). Thus, the creative aspect is essential, so as to stimulate that the individual from the youngest age to reshape realities which are taken for granted by most of us, who live on *automatic pilot*, without a deep awareness of the situations we go

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