IN A DIFFERENT WAY, BUT JUST AS SMART. THEORETICAL FRAMEWORK

With his 1983 book *Frames of Mind*[1], in which he set out his Theory of Multiple Intelligences, Howard Gardner created a stir among psychologists engaged in the study of human intelligence: his theory contradicted the idea that intelligence was unique and he moved away from the psychometric perspective that had prevailed until that time. He argued that there are many ways of being intelligent and that everyone can develop all intelligences to an adequate level of competence. This new concept of intelligence was, however, very well received in the field of education.

Gardner wrote of eight intelligences. As shown in Table 1, they were: linguistic intelligence, logical-mathematical intelligence, musical intelligence, bodily-kinaesthetic intelligence, visual-spatial intelligence, naturalistic intelligence, intrapersonal intelligence and interpersonal intelligence. These intelligences are independent although they do interact with each other. He also speaks of a unique profile of intelligence: for Gardner, there are no two people - not even identical twins - who have exactly the same intelligences profile. This already suggests diversity to us. Neuroscience also confirms this idea when it tells us that our brains are unique and unrepeatable.

INTELLIGENCES	**THEY LIKE TO:**	**CHARACTERISTICS**	**THEY LEARN THROUGH:**
Linguistic	Write, read, memorise dates, write stories or tales, tell stories or tales, play with words, rhymes, tongue twisters, etc	They have a broad vocabulary, good language ability, good rhetorical expression, a way with words, persuasive discourse, metalinguistic analysis, verbal memory, good language comprehension, humour based on linguistics, good with syntax (rules), phonology (sounds) and semantics (meanings)	Words - written, heard and spoken. They think in words
PROFESSIONS: Actors, writers, politicians, speakers FAMOUS PEOPLE: Emilia Pardo Bazán, Marilyn Monroe, Cervantes, El Rubius, Virginia Wolf The world tells			
Logical-mathematical	Ask, calculate, solve logical problems, use abstract symbols, decipher codes, relate objects, experiment, work with numbers and formulas, statistics, inductive and deductive reasoning, scientific thinking	They analyse problems logically, solve mathematical operations, investigate scientifically, recognise abstract structures, have good deductive and inductive reasoning, distinguish relationships and connections, perform complex calculations, good	Rules, guidelines, rigour in general. Working with relationships and patterns, summaries, structured schemes, reasoning

[1] Gardner, H. (2001). *Frames of Mind* (6th edition in Spanish). Santafé de Bogotá, Colombia: Economic Culture Foundation.

		understanding of cause and effect, use numbers effectively, relate concepts well, have excellent abstract visualisation, organise information by points, use deductions and syllogisms in their communications	
PROFESSIONS: economists, engineers, computer scientists, scientists FAMOUS PEOPLE: Marie Curie, Einstein The world is structure			

Visual-spatial 	Design, visualise, fantasise, daydream, build, draw and look at drawings, scribble, 3D space, create	They have an active imagination, recognise relationships between objects in space, understand plans and sketches, good with labyrinths and puzzles, make good use of colour, lines, shapes and space, demonstrate good graphic representation by painting, drawing, sculpting etc, make mental images, have good visual memory, creativity etc	Images, colours, shapes and space
PROFESSIONS: filmmakers, designers, architects FAMOUS PEOPLE: Frida Kalho, Pilar Miró, Gaudí, Almodovar, Carolina Herrera The world appears			
Musical 	Recognise both environmental and instrumental sounds, sing, whistle, hum, modulate, vocalise, carry rhythms with hands and feet, play instruments, create musical styles	They are skilled at composing and appreciating musical structures, recognising and composing variations, tones and rhythms, appreciate music, rhythms, tones, etc, sensitive to sounds of any kind and any melody, able to perceive and transform musical forms, starting from a very young age	Sounds, rhythms, songs, melodies, musical structures in general
PROFESSIONS: composers, musicians, singers FAMOUS PEOPLE: Edith Piaf, Maria Callas, Mozart, Madonna The world sounds			
Bodily-kinaesthetic	Dance, jump, run, play instruments, manipulate, mime, sports, dramatise, body language	Have control over movements, balance, flexibility, speed and strength, agility and grace, control of how to move and react, miming abilities, body awareness,	Movement and motor skills Bodily sensations

		from early ages they display skills in handiwork, and are skilful at playing instruments, theatre, crafts, etc	
PROFESSIONS: sportspeople, dancers, actors, sculptors, surgeons FAMOUS PEOPLE: Coco Chanel, Pau Gasol, Carolina Marín The world moves			
Naturalistic 	Experiment, protect the environment, classify species, classify elements in the environment, observe, identify, compare, organise patterns in nature, etc	They are people with a great capacity for studying natural facts, with great sensitivity to flora, who care and interact with living creatures, recognise and classify members of a species, appreciate the impact of nature on people and vice versa, love animals and plants, very good at observing, experimenting and reflecting upon the environment.	Nature and scientific reasoning.
PROFESSIONS: vets, doctors, sociologists, biologists FAMOUS PEOPLE: Darwin, Marie Curie The world lives			
Intrapersonal 	Reflect, set goals, plan, dream, meditate, remain quiet, order, working alone, controlling their feelings and emotions, knowing themselves	These people are able to reflect upon themselves, their feelings and motivations, have good mental concentration, excellent metacognition, able to discern emotions, good organisers of their life, self-disciplined, with great inner strength, good counsellors, strong understanding of their own behaviour, manage stress and behaviours, aware of their abilities and limitations and set realistic goals	Metacognition
PROFESSIONS: therapists, philosophers FAMOUS PEOPLE: Mother Teresa of Calcutta, Simone de Beauvoir, Gandhi With the world I can			
Interpersonal	Manage, organise, lead, collaborate, have friends, talk to people, relate, mediate, negotiate, empathise, go to parties, work on group projects	These people have good social skills, understanding the motivations, emotions, desires of others, facilitators of relationships, good verbal and nonverbal communicators, skilled in	Interactions with other people.

		responding, convincing in their negotiations, good leaders (self-confident), skilful at resolving conflicts	
PROFESSIONS: teachers, psychologists, leaders FAMOUS PEOPLE: Cleopatra, Malala Yousafzai The world with you			

Table 1. Chart showing multiple intelligences, compiled from different sources. Illustrations by Serafina Balasch.

In his 1999 book *Intelligence Reframed*. *Multiple Intelligences for the 21st Century*[2], Howard Gardner redefined intelligence as a "biopsychological potential to process information that can be activated in a cultural setting to solve problems or create products that are of value in a culture. This slight change in framing is important because it indicates that intelligences are not something that can be seen or counted: they are potential - presumably neural - that are activated (or not) depending on the values of a culture and the decisions made by each person and/or his or her family, teachers or other persons". And based on this definition, we will answer the following questions.

What then does it mean to be intelligent? What pedagogical implications does the theory of multiple intelligences have in the classroom? How do they relate to inclusive education?

The first big learning is that we are all intelligent and therefore we all have something to contribute, something to teach, some way in which we can help. We all have strengths. This is important because it involves a paradigm shift in which we move from a deficit-based paradigm, focused on what children don't know how to do, focused on Bloom's difficulties and problems with learning towards a paradigm of growth, which values and takes advantage of strengths and capacities in order to reinforce them - a paradigm that always talks about how to improve. By moving away from a psychometric approach that measures intelligence, intelligence is democratised: we are all intelligent. And intelligence is not used as a differentiating and segregating factor.

There are different ways of being intelligent and therefore different ways of learning. In Table 1 we saw how people learn by focusing on their dominant intelligence. Do you remember when you were a student and were asked a question in the exam and you were able to visualise the page of the book or your notes and remember the information? Have you ever associated a song with a particular subject you were studying? Had a physical experience that brought you closer to the content?

[2] Gardner, H. (1999). *Intelligence Reframed. Multiple Intelligences for the 21st Century.* Barcelona: Paidós.

Yet the theory of multiple intelligences also posits a change in methodology centred on the use of active and contextualised methods that encourage the solving of problems and challenges and the creation of products that are of value to a culture. It therefore goes in partnership with the competence-based development referred to above. Key competences and multiple intelligences are both characterised by their multi-dimensionality, dynamism and integrated character. An intelligent subject is an active subject who participates, shares and builds knowledge.

How do I apply this in the classroom? Educational initiatives.

Working with multiple intelligences in the classroom involves looking at personalising learning and multi-level teaching - in other words, a form of teaching that advocates an inclusive response in the classroom, so that all students learn the same content with the necessary adjustments. This proposition is based on Blooms Taxonomy, which encourages the development of activities at different levels of complexity to allow all students to take part. It also, however, advocates a change in assessment. Collicot (2000)[3] says that teachers must tackle the task of restructuring their teaching practice in order to involve all students in classroom activities, so that they are not only physically present but also taking part and progressing.

Working with multiple intelligences in the classroom also means ensuring our programming takes account of Universal Design for Learning[4], which itself considers representation networks as well as expression networks. The former are based on the idea that there are different ways of perceiving and understanding information whereas the second is more closely related to the way in which information is presented and expressed.

To learn more about the suggestions made on this topic, you'll find supplementary information about interactive online training on our competition website.

[3] Collicot, J. (2000). Posar en pràctica l'ensenyament multinivell: estratègies per als mestres. Suports: Revista catalana d'educació especial i atenció a la diversitat, 4(1). 87-99. From http://www.raco.cat/index.php/Suports/article/view/102003/141934.

[4] To find out more, see http://www.educadua.es/