LEARNING TO THINK

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Thinking is so natural that we never stop to think about it.
Learning to think focuses on the development of students' critical thinking skills and habits of mind, although the idea that all students should learn how to think critically is a relatively new one.

Aptitudes, styles and skills.
An aptitudes is an innate inborn ability or capacity to learn to do a certain kind of work. Aptitudes may be physical or mental. Many of them have been identified and are testable.
Skills, abilities, and aptitudes are similarly related but distinct, descriptions of what a person can do. Skills are a backward looking description. Skills describe what a person has learned to do in the past. Abilities are a present description. Abilities describe what a person can do now. Aptitudes are a forward looking description. Aptitudes describe what a person has the ability to do in the future. They describe what a person can learn to do.
Aptitude is the potential ability to do something. It is what we are naturally good at.
Besides, Sternberg introduced thinking styles as a preference in the use of one's abilities; Styles of thinking concerns the use of intelligence.
Just as there are three functions of government, legislature, executive and judiciary, there are three functions of mental self-government.:
The legislative function of the mind is concerned with creating, formulating, imagining, and planning.
The executive function is concerned with implementing and with doing.
The judicial function is concerned with judging, evaluating, and comparing
Just as there are four forms of government, monarchic, hierarchic, oligarchic and anarchic, there are four parallel forms of mental self-government.
-The monarchic form is characterized by a preference for tasks and situations that allows focusing on one thing or aspect at a time and staying with that aspect until it is completed.
-The hierarchic form involves setting multiple goals, each of which have a different priority.
-The oligarchic form allows for multiple goals, all of which are equally important.
-The anarchic form is characterized by a preference for activities that lend themselves to great (sometimes too great) flexibility of approaches and to trying almost anything.
The scope of mental self-government can be either internal or external. On the one hand, the internal style refers to a preference for projects, tasks, or events that allow one to work independently from others. On the other hand, the external style refers to a preference for activities that allow working and interacting with others at different stages of progress.
So there are three thinking styles and it is necessary to become aware of which style or styles and it is necessary to become aware of which style or styles you prefer although they can change in the time.
Legislative: is that involving people that like to do things on their own way, º making their own rules.
Executive: we can find it in implementers people that like to have a guide how to do. They prefer problems that are given to them.
Judicial: it characterizyse people that like to evaluate rules and judge things. They like problems in order to analyze strucutre and contents. They are good workers in team.

Aptitudes + training in choosing the styles=abilities

Our challenge is to develop abilities that can increase our potential for success not only in our duties but in our life in general.

Thinking
Thinking means some mental operations:
- Cognition: recognizing and identifying.
- Memory
- Convergent Production
- Divergent Production
- Evaluation

Thinking is a process that creates knowledge from existing knowledge.
Covergent and Divergent Productions.
Convergent and divergent production are the two types of human response to a set problem and most individuals display a

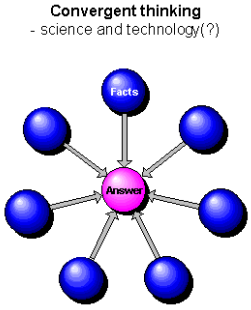
preference for either convergent or divergent thinking.

Convergent thinking

Convergent thinking is oriented towards deriving the single best (or correct) answer to a clearly defined question. It emphasizes speed, accuracy, logic, and the like, and focuses on accumulating information, recognizing the familiar, reapplying set techniques, and preserving the already known. It is based on familiarity with what is already known (i.e., knowledge), and is most effective in situations where a ready-made answer exists and needs simply to be recalled from stored information, or worked out from what is already known by applying conventional and logical search, recognition and decision-making strategies.

It is analytical, usually deductive, thinking in which ideas are examined for their logical validity or in which a set of rules is followed.

.-One is called "convergent" thinking, when is good at bringing material from a variety of sources to bear on a problem, in such a way as to produce the "correct" answer. This kind of thinking is particularly appropriate in science, maths and technology.



Conventional measures of intelligence do not always do justice to abilities. The tests give credit for problem-solving which produce the "right" answer, but under-estimate creativity and unconventional approaches to problems.

Convergent thinking involves different kind of ontelligences:

-linguistic
-logical mathematical
-spatial
-kinaesthetic
-musical
-interpersonal
-intrapersonal

The last two terms have to do with what is kown as emotional intelligence.

Emotional Intelligence

Emotional Intelligence (EI) describes the ability, capacity, skill or, in the case of the trait EI model, a self-perceived ability, to identify, assess, and manage the emotions of one's self, of others, and of groups. Different models have been proposed for the definition of EI and disagreement exists as to how the term should be used. Despite these disagreements, which are often highly technical, the ability EI and trait EI models enjoy support in the literature and have successful applications in different domains.

Traditionally definitions of intelligence emphasized cognitive aspects such as memory and problem-solving, but several influential researchers in the intelligence field of study had begun to recognize the importance of the non-cognitive aspects. In 1920, it was used by the first time the term social intelligence to describe the skill of understanding and managing other people.

Later was introduced the idea of Multiple Intelligences which included both Interpersonal intelligence (the capacity to understand the intentions, motivations and desires of other people) and Intrapersonal intelligence (the capacity to understand oneself, to appreciate one's feelings, fears and motivations)

The model introduced by Goleman focuses on EI as a wide array of competencies and skills that drive leadership performance and outlines four main EI constructs:

1.Self-awareness — the ability to read one's emotions and recognize their impact while using gut feelings to guide decisions.

2.Self-management — involves controlling one's emotions and impulses and adapting to changing circumstances.

3.Social awareness — the ability to sense, understand, and react to others' emotions while comprehending social networks.

4.Relationship management — the ability to inspire, influence, and develop others while managing conflict.

Goleman includes a set of emotional competencies within each construct of EI. Emotional competencies are not innate talents, but rather learned capabilities that must be worked on and can be developed to achieve outstanding performance. He also states that individuals are born with a general emotional intelligence that determines their potential for learning emotional competencies.

Individuals who use one style of thinking typically assumed that all other people use their own thinking style. In other words,

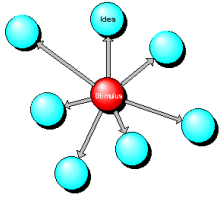
most of the population assume that there is only one correct or sane method of thinking. This assumption produce a great amount of intolerance, impatience, abuse, frustration, and inefficiency in the communication and relationships which are formed between individuals.

Divergent Thinking

Divergent or synthetic thinking is the ability to draw on ideas from across disciplines and fields of inquiry to reach a deeper understanding of the world and one's place in it.

There is a movement in education that maintains divergent thinking might create more resourceful students. Rather than presenting a series of problems for rote memorization or resolution, divergent thinking presents open-ended problems and encourages students to develop their own solutions to problems.

Divergent production is the creative generation of multiple answers to a set problem.



Divergent thinking
- arts and humanities(?)

•One is termed "divergent" thinking when has the skill in broadly creative elaboration of ideas prompted by a stimulus, and is more suited to artistic pursuits and study in the humanities.

Creativity

Creativity is a mental process involving the discovery of new ideas or concepts, or new associations of the existing ideas or concepts, fueled by the process of either conscious or unconscious insight.

Creativity has been attributed variously to divine intervention, cognitive processes, the social environment, personality traits, and chance ("accident", "serendipity"). It has been associated with genius, mental illness, humour and REM sleep. Some say it is a trait we are born with; others say it can be taught with the application of simple techniques. Creativity has also been viewed as a beneficence of a muse or Muses.

From a scientific point of view, the products of creative thought (sometimes referred to as divergent thought) are usually considered to have :

- fluidity: a big amount of possible solutions
- flexibility: belonging to different domains
- originality: that are far fromm the usual one
- elaboration: and can be developed.

Creativity has been associated with right or forehead brain activity or even specifically with lateral thinking.

We can say that lateral thinking is a way of thinking and creativity is the result of this process.

Creativity is also an "assumptions-breaking process." Creative ideas are often generated when one discards preconceived assumptions and attempts a new approach or method that might seem to others unthinkable.

It has to do with:

- intelligence.
- Knowledge
- Thinking style
- Barriers
- Motivation
- Environment

As we see, lateral thinking relates perception from diffrent points of view and exploration. Because of it, we can state that creativity can be trained.

Even in the earlies of last century, an stage model was presented explaining the creative process; it consisted 5 stages:

- preparation (preparatory work on a problem that focuses the individual's mind on the problem and explores the problem's dimensions),
- incubation (where the problem is internalized into the unconscious mind and nothing appears externally to be happening)
- intimation (the creative person gets a 'feeling' that a solution is on its way),
- illumination or insight (where the creative idea bursts forth from its preconscious processing into conscious awareness); and
- verification (where the idea is consciously verified, elaborated, and then applied).

Some people consider creativity to be a legacy of the evolutionary process, which allowed humans to quickly adapt to rapidly changing environments.

Other researchers have occasionally used the terms flexible thinking or fluid intelligence.

Meta thinking

Finally, we should close our little speech with the last concept we are going to present: the metathinking. Although is not very usual to speak and think about it, it is the third vertex of the triangle and without it,

it is useless pay attention to the other two: convergent and divergent thinking.
Metathinking skills relates the knowledge of oneself regarding thinking process and results. It means to be conscious in each moment which thinking style one is applying and why, which points of view one is looking from, is asking questions starting by how, when, where, why and what but also those ones beginning by "what if....". It is to be aware, analyst and critical of your own thinking process in order to change strategies, styles, to avoid failed ways and to improve the results by using convergent and divergent thinkinks when necessary.

Conclusion

It is possible and important learning to think, because it is better to know thinking than have a lot of knowledge