

"Creativity is intelligence having fun"

CREATIVITY AND ARTS IN EDUCATION

RESEARCH

"We have art in order not to die of
the truth" – Friedrich Nietzsche



Marín Quesada, Delia
Batxillerat Humanístic, B-22
Mar Bertrán - Teresa Ribas

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– Albert Einstein

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1. INTRODUCTION

1.1 Objectives

The **main objective** of this research is to determine if there is a primary school (education centre) in Sant Boi de Llobregat to provide a personalized education to their students, as well as boost their creativity and make arts a fundamental part of their curriculum.

But I also have some different aims related to the subject...

- ✓ To define some important concepts in order to understand what I am talking about.
- ✓ To learn about education and about how is structured and how the educational system in Spain works.
- ✓ To determine what we mean by creativity in a wide meaning.
- ✓ To find out whether creativity is an innate trainable skill or not.
- ✓ To discover the function and the need of arts in society and in human beings.
- ✓ To find out if the school kills creativity. If so, should the school encourage and promote creativity?
- ✓ To discover if creativity is restricted to the artistic area exclusively or can be introduced in other skills and subjects that schools promote.
- ✓ To find out if there are teaching methods that promote the development of creativity according to the need of the individual.
- ✓ To study how important received stimuli and the environment are for creativity.
- ✓ To look for creative schools and find out the methodology they use.
- ✓ To learn about different theories and authors' propositions.
- ✓ To find out different teaching and pedagogic methods and see how they are.
- ✓ To make some surveys for then making the graphics and get the conclusions.
- ✓ To be capable of making my personal reflection about first, my work, my accuracy, and my possible mistakes, second, about education, creativity and the arts, and third, about the society and the world we live in.
- ✓ To improve my English level by reading, writing, listening and speaking it.

And, of course, the general objectives of this research are...

- ✓ To exercise the knowledge and procedures acquired from all the different subjects taken along the school stage.
- ✓ To manifest effort, responsibility and regularity in the accomplishment of tasks.
- ✓ To organize the own work and being able to take initiative to solve problems that may arise.
- ✓ To resort to the appropriate sources of information and to make an appropriate use of them.
- ✓ To elaborate a clean and tidy presentation and structure the content logically.
- ✓ To express myself writing correctly, clearly, with a properly vocabulary, and using a specific language appropriate to the theme.
- ✓ To elaborate the conclusions synthetically.
- ✓ To orally present the work with a properly vocabulary and in a clear way.
- ✓ To, whenever possible, provide adequate answers to the questions that arise.

1.2 Hypothesis

Is there a primary school in Sant Boi de Llobregat that provide a personalized education and where creativity and the arts have an important role in the curriculum?

**During the process of carrying out this research, there were other questions that I have not responded to because they would come out of my frame of study and my goals have arisen to me. Anyhow, I would like to highlight among them, the possibility of making a comparative study of the artistic weight comparing the primary and the secondary curriculum.*

1.3 Personal motivation (Why have I chosen this topic?)

When our research paper was presented to us in school and we had to choose a topic, the first thing I thought was that I wanted to do it about something important to me. From the beginning I knew that I wanted to investigate something I was interested in, something that I really liked, because this way, surely, I would enjoy by making it. I have to say that at first, I doubted between some different options. I did not know if doing my paper about music, or musical theatre, worlds close to me, or about education and our educational system, considering that it is a theme that also interests me and directly related to my professional future as a teacher. So, I started to think about those options, in order to decide which of them to choose.

Since I was born, music has always been part of my life. It is said that it was invented for the inexpressible and that starts there when the language finish, although it is itself a universal one. I started studying music theory and piano when I was nine years old, and about two years ago, now I am seventeen, I found a guitar at home, and after really attracting my attention, I decided to learn how to play it auto-didactically. It could be said that more or less I hold my own with some chords, even though I know that I still have so much to learn from this two instruments. Music has always been there for me, unconditionally, it has been by my side in the good moments and in the bad ones. And I see it as a way of forgetting my problems for a while, or as a way to express myself. (In my case, as I study musical theatre as a hobby, the same happens with it).

Almost without realizing it, I started to link all these concepts: music, dance, and theatre, all of them a form of **ART**, imagination, innovation, **CREATIVITY**, society... and **EDUCATION**. As I was increasingly interested in these topics, I also started to look for information about them, and I found some videos that really inspired me and took me to the idea of putting them all together. THAT IT IS HOW I ARRIVED TO THE TITLE OF MY PAPER: **CREATIVITY AND ARTS IN EDUCATION**.

Art, in all its manifestations, is what makes us human. Unlike science, predictable and governed by the laws of nature, art provide us different ways of expressing ourselves, and through it we can convey our feelings and our way of seeing the world we live in. I think science, social science, humanities and art, should be all assessed in the same way. All professions should be seen as essential for the development of a society in the eyes of citizens.

In my opinion, since our childhood, society makes us disregard our artistic instincts and creativity, an innate ability that we all have from the moment we are born, and that its development will depend on the stimuli received. Our educational system determines that subjects like maths are important, and there is no doubt about it, but on the contrary, music or painting, and so on, become "expendable subjects". Why not to devote the same effort on teaching creativity that on teaching literacy? Why not to spend the same hours with mathematics that dancing or acting?

Art and culture play an indispensable paper on our society. That's why I think, that in general, creativity and the arts should be more valued and should be more present in our educational system. Anyway, something is happening out there and more and more people are becoming aware of the need of a change in education and its paradigms. The information and education articles appear regularly in the press today. Also on television several reports and information related to education, the educational system and how we are teaching are published.

We can find opinions and debates in numerous Internet websites dealing with education and learning, and we can also easily find others webs that promote schools and educational institutions; even new learning programs online is offered in the network, distance learning courses for parents concerned about their children's education, and many other products, services, information and discussion forums where education is presented as main subject. New books in which education is the theme around and where different authors present their ideas and thoughts about it also seems to appear more and more every time. Education and the educational system seems to occupy and preoccupy many people and institutions. One of the most common concerns expressed about education would be the feeling that the educational system is used up, producing no satisfaction even among students and among teachers. It would seem that the ways and means of teaching and learning are outdated and out of time. If this perception is true, or if this feeling is more or less widespread, we could try to check it out somehow, but the truth is that there is no doubt that there are many personal initiatives and institutions in the world of education that are trying to "do the things" in a different way.

But something else happens, it seems that all the actors involved in this issue of education are aware that the world changes in a constantly accelerated way, and that in a changing world new problems and contradictions appear rapidly, requiring new and imaginative solutions.

Everyone talks about innovation, imagination, creativity, innovative solutions...

It seems logical that the development and education of creative and innovative people cannot be guaranteed in any other environment that is not innovative, inspiring, creative, flexible, and that has an original and innovative outlook (like the arts have always done) on old and new problems, the way of addressing education and the school. If the model and the ways and means to "educate" is trying to renew or rethink itself, must incorporate imagination and creativity as qualities that participate in this process of renewal of education. In other words, what should be done is that society as a whole and the educational system in particular apply the thoughts they share with others, value and consider interesting for the world that is constantly changing.

Should the education of students go in the course of promoting the education of creative, unique, flexible and dialoguing, critical, sensitive, responsible, independent, caring and sociable individuals? If the answer is yes, it is conceivable that such education should be given to an institution to endorse, create, promote and work with those same values and attitudes.

If creativity and innovation are values and attitudes to promote, education and the schools themselves should have them present in their daily lives, and perhaps even more, making them the inspiration for his activity.

One approach to this landscape of education, creativity, promotion of the arts, in a near environment, and about which initiatives are being developed is the idea behind this research.

1.4 Methodology

The methodology I have followed has been diverse:

First of all, I needed to look for information in order to have an idea of what I was going to talk about. For that aim, I searched in books, newspaper articles, encyclopaedias, I reviewed conferences, documentaries and educational programs on the Internet, and I also conducted personal conversations with teachers and interviews with school directors.

I found very interesting approaches in two Ken Robinson's books (*"Out of our minds"* Capstone Publishing Ltd. 2011 and *"Creative Schools"* Penguin Random House UK 2015) and also in some newspapers articles such as (*El Periódico, La Vanguardia...*) which

reflected different ideas on education and aspects related to it. I also obtained information and interesting reflections on education visiting different web pages from schools in the country, as well as in some sites of associations and / or foundations that make education its *raison d'être*. I also viewed conversations and lectures from people closely related to the world of education that exposed their ideas or debated with the interviewer (conferences on "*TED Talks*", or informative programs as "*Networks*" in Spanish Television, or chapters of the issuance of "*Mestres*" on public television of Catalonia). Different items, or manuals, as the manual "*General Teaching*" by Florentino Blázquez and others... (Madrid, 1983, Anaya), have given me a wide vision on education: the world of teaching and learning. And, with all that, I was able to do my theoretical framework.

But, to elaborate my work, collect more information about the aspects mentioned before, form me a personal opinion, and that way, be able to prepare my investigation work, I also needed a real approximation to the professional world of education and teaching. Therefore, as I said before, I tried to contact and talk to people with experience on that subjects, with either teachers, principals, educators, psychologists or pedagogues. I went to design a series of questions for the preparation of a questionnaire to ask about the presence or not of different variables on the education provided at the centre. I used surveys (from which I was able to get the graphics), and another time, interviews. That was basically my practical framework.

Finally, with the results, I got to get the conclusions, being able to answer my hypothesis and my questions. (Al thought some other questions appeared in my mind I could not answer them, because I had to centre in my work, but they could be used to make another investigation).

In any case, the methodology used was aimed at obtaining direct information on what was happening in some schools, and know the ideas that animated the way things were done there.

2. THEORETICAL FRAMEWORK

2.1 Our educational system

2.1.1 The structure of the Spanish educational system

In the Spanish educational system we find three types of EDUCATIONAL CONSTITUTIONS:

PUBLIC SCHOOLS	Owned by the Education Authority and publicly-funded
PRIVATE SCHOOLS	Privately owned and privately-funded
PUBLICLY – FUNDED PRIVATE SCHOOLS	The ownership is private but they can be publicly funded through a regime of agreements

The Spanish Education System offers the following studies:

- ✓ Pre-Primary Education
- ✓ Primary Education
- ✓ Lower Compulsory Secondary Education (*ESO*)
- ✓ A levels (*Bachillerato*)
- ✓ Occupational Training (*FP*)
- ✓ Adult Education and University Education
- ✓ Language, Artistic and Sports Education*

**Language, Artistic and Sports Education are provided, but they are considered specialised education.*

2.1.2 The non-university education

In Spain, Primary Education and *ESO* make up ten years of schooling, being compulsory and cost-free for all the students. However, as seen before, we have other (not compulsory) studies.

Pre-Primary Education is not compulsory.

It is organized in two cycles: the first one lasts until three years old, and the second one, which is cost-free, from three to six.

Primary Education is the first compulsory level of the Education System. It lasts six academic years, between six and twelve years. (1st, 2nd, 3rd, *with an individualised evaluation on completion of this third year*, 4th, 5th, and 6th, *with an individualised evaluation at the end of this stage*).

Primary education, along with Lower Compulsory Secondary Education (*ESO*), constitutes the basic, compulsory and cost-free education of the Spanish Education System. Both levels are aimed at assuring the development of the key competences that are particularly necessary for personal fulfilment and development, active citizenship, social inclusion and employment.

Some of them are:

- Communication in the mother tongue.
- Communication in foreign languages.
- Mathematical competence and basic competences in science and technology.
- Digital competence.
- Social and civic competences.
- Sense of initiative and entrepreneurship.
- Linguistic communication.
- Cultural and artistic skills.

The aim of primary education is to facilitate students' learning of oral expression and comprehension, reading, writing, calculus, the acquisition of basic notions of culture and coexistence, as well as study and work habits, artistic sense, creativity and affectivity, guaranteeing an integral training which contributes to the full development of their personality, and preparing them to successfully complete secondary education.

Age levels and grouping of pupils

Primary Education is aimed at children from 6 to 12 years old. The stage is subdivided into six academic years and organised into areas.

Class groups are usually made up taking into account the year of birth. For correctly attending Primary Education pupils, some flexible groups can be temporarily established and only for some subjects according to the pupils' competence level. Flexible groups are an organisational strategy for forming reduced groups of pupils as a measure for attending diversity.

Minimum number of teaching hours per year according to curricular area

Curricular areas	1 st cycle	2 nd cycle	3 rd cycle
Natural, Social and Cultural Environment	175	175	140
Arts Education	105	105	105
Physical Education	105	105	105
Spanish Language and Literature	315	280	280
Foreign Language	105	140	140
Mathematics	175	210	175
Religion	105	105	105
Education for Citizenship and Human Right	0	0	50

Source: Drawn up by Eurydice Spain-REDIE from the regulations. (2006)

This minimum number of teaching hours per year for each area means 55% of the school timetable in the Autonomous Communities with a co-official language and 65% in the rest. The different Education Authorities complete the timetable in their corresponding jurisdictions. That is why there are differences in the time devoted to each area.

Secondary Education covers *ESO*, the second and last compulsory stage for students aged from twelve to sixteen years old, A levels (*Bachillerato*), basic occupational training and intermediate occupational training, which are non-compulsory levels.

ESO lasts four academic years. In the last cycle, students will have to choose for the first time between two options. (However, both will lead them to the same certificate that will provide access to *Bachillerato* (A levels), intermediate occupational training and to the world of work.) (The students who do not pass these studies will receive an Official certificate of Compulsory Education including the years studied and their qualifications).

Bachillerato or **A levels** lasts two academic years, from sixteen to eighteen years old. From the following school year the examination will have academic validity and the grades obtained in the subjects studied and the grade achieved in the final evaluation will be weighted for the award of the certificate. This certificate will provide access to the different higher education studies.

Occupational Training (FP)

To study **Intermediate FP** the students who pass these studies receive the qualification of Technician, which gives them access to Bachillerato.

To study **Advanced FP** it is necessary to have the Bachillerato certificate. The students who pass these studies obtain the qualification of Advanced Technician, which gives them access to the university studies related to the FP studies taken before. Both Intermediate and Advanced FP comprises a series of training actions and initiatives whose aim is that people become professionally qualified by teaching and learning processes in training institutions and workplaces. (Placements with companies are supervised by the education authorities).

Artistic, Sports and Language Education have their own organisation, being considered Specialised Education.

Educational institutions providing specialized education

TYPE OF PROVISION	NAME	STUDIES PROVIDED
Artistic Education	Conservatories of Music and Dance	Institutions providing elementary and professional Music and Dance Education
	Higher conservatories or higher schools of Music and Dance	Institutions providing advanced Music and Dance Education
	Art schools	Institutions providing professional Plastic Arts and Design Education
	Higher schools of Dramatic Arts	Institutions providing advanced Dramatic Arts Education
	Higher schools for the Preservation and Restoration of Cultural Assets	Institutions providing advanced Preservation and Restoration of Cultural Assets Education
	Higher schools of Design	Institutions providing advanced Design Education
	Higher schools of Plastic Arts	Institutions providing advanced Plastic Arts Education

TYPE OF PROVISION	NAME	STUDIES PROVIDED
Physical Education	(They do not have a specific name)	Public or private schools authorised by the corresponding Education Authority, included in <i>FP</i> institutions or in authorised institutions of the different sport federations

TYPE OF PROVISION	NAME	STUDIES PROVIDED
Language Education	Official Language Schools	Institutions providing elementary, intermediate and advanced of language Education. Education Authorities can include in this schools distance Language Education and Updating and Specialisation Courses

2.1.3 Education at university

Universities, providing University Education, can be classified, depending on their ownership, into public or private. They both comprise university schools, faculties, research university institutes and any other centre or structure which might be necessary in order to perform their duties.

2.2 Creativity

Metaphors like *“a voyage of discovery”* are often used to describe creativity.

Alexander Bell, the inventor of the telephone, was said to have thought of creativity as involving a ‘dive’ into an unfamiliar place, and Jung spoke of water representing the depths of the unconscious which provide a stimulus to creative impulse. We all know that creative thinking becomes increasingly important today. Society is changing faster than ever, requiring people with a great ability in various media, people able to seek, to innovate, to be able to grasp only the essential information from all information in our hands, and applying it in an original and creative way, looking for that touch of uniqueness and difference through a divergent thinking. That's why we lately hear, speak and read more and more about educating children and the young in creativity, through an education that promotes a freedom, based on problem-solving and on finding divergent and original solutions.

Creativity is an innate ability of human beings. That means we are all creative or have that potential from the moment we are born. The thing is that its development will depend directly on the stimuli we receive from the environment. For that, we need an environment that allow us to effectively work and train it. The classroom should be a suitable place for this. The real question is, are we doing it right?

As children grow, they cease to be creative. No studies are needed for us to realize about that, though there are some of them that prove it. If you looked around, and you asked the children of a classroom if they are creative, they would say yes without thinking twice, and in the case they did not know what it means, they would surely show it to you in one way or another. If you asked the same question to adults in their workplace, most of them would firmly say no.

The painter Pablo Picasso once said that all children are born artists: the problem is to remain an artist as we grow up. In the process of growing, education is meant to guide us from childhood to maturity. It should be high among the ways in which we realize our creative abilities. Ironically, more often it is why we lose sight of them.

2.2.1 What do we understand by creativity?

Not all authors have used and defined the concept of creativity in the same way. There are those who focus primarily on the creativity of the creative process itself and the ones who focus on the imagination and the artistic aspects. In my research I have studied authors and recent studies that define creativity as a skill, and intellectual property that promotes cognitive and emotional development of people. After reading different authors specialised on the theme and multiple definitions and theories about creativity, we could define it too, in a summarized form, as the ability to invent and develop new and original ideas. It means possessing the ability of finding solutions to problems in an original and creative way, and it is expressed not only in solving problems, but also in locating them.

2.2.2 Stages of creativity

Preparation – where time and experiences foster creative opportunity

Frustration – expression and approach are unclear

Incubation – the idea takes shape

Illumination – the approach becomes clear

Elaboration – a plan is developed and built upon

2.2.3 Ideas about creativity

There are many theories and ideas about creativity, therefore it is necessary to consider: the **creative person**, creative product, the **creative process**, and the suitable **space** for creating mental, spiritual or transcendental ideas.

The creative person

Special people and special activities?

It is often thought that only special people are creative: that creativity is a rare talent that only a few ones have. And we take as example important icons like Albert Einstein (1879-1955), Pablo Picasso (1881-1973), Thomas Edison (1847-1931) or Amadeus Mozart (1756-1791).

Everyone has a huge creative capacity as a natural result of being a human being. The real challenge is to develop it. A culture of creativity needs to involve everybody, not just a select few.

It is also often thought that creativity is only about special activities, such as the arts, advertising, design or marketing. It is true, all of these activities are creative, but so can anything, including science, maths, teaching, medicine, running a restaurant...

As the author Ken Robinson claims, we need a better provision for the arts, (there are many reasons for teaching the arts in school, including their role in fostering creativity) but creativity is not confined to the arts only. Science and maths can be as creative as music or theatre.

People think that creative people are just born creative or not. The real thing is, there is a lot you can do to help people become more creative. We are all creative from the moment we are born. We just need to take the right stimuli to develop it. It is just like learning to read or to write. We have the capacities to do it, we only need to be taught correctly.

To take a closer example, the San Juan de Dios hospital, in Barcelona, issues a study coordinated by Jose Antonio Marina which ensures that creativity is, more than an innate talent, a trainable skill. According to the philosopher Jose Antonio Marina, professor of

philosophy and director of the “*Universidad de Padres*”, creativity must be taught. He says that creative people oscillate between analysis and synthesis, the first help solve problems, while synthesis is the true idea's generator. Marina also supports that creativity is a habit that family and school should encourage as other habits. He advises families to stimulate the curiosity of children by providing learning situations; and helping them if the child fails, because the fear of failure can lead to passivity and limit creativity. He also advises schools to convey the feeling to the students that "learning" is magnificent and beyond "approve", and encourages them to break free from the tyranny of "programs" because they can limit creativity. These reflections derived from the study mentioned in the line would consider creativity as an essential value inherent, but trainable, in the person.

As we said before, the most important characteristics of **creative people**, who have trained their creativity, are:

- **Curiosity and motivation**, the desire to know and investigate
- **Originality and imagination** to generate unique and innovative ideas.
- **Sensitivity** to capture the essence of the phenomena is hypersensitive to the problems, needs...
- **Flexibility**, the ability to change perspective and adapt to new rules.
- **Fluency**, the ability to make suggestions before problems develop more solutions, alternatives...
- **Transformations**: remakes ideas, concepts, people and things.
- **Autonomy**, the freedom to think and let them develop their imagination and spontaneity.
- **Association**, the ability to unite and combine ideas, words, images.
- **High capacity symbolization**, using something as a symbol of another.
- **Intuition**: being able to look inside oneself and trusting his own inner knowledge
- **Confidence**, no fear to go wrong or make mistakes.

The **creative process**, characterized by its originality, flexibility and fluidity, involves the interaction of the following functions: thinking, perceiving, feeling and intuition. According to

Clark (1992) creativity is a condition, or an attitude that involves the synthesis of all the functions of the mind.

It is clear from results of various studies that there is no simple answer to the effect of reward on intrinsic motivation and creativity. Nor is it clear what or how cognitive processes, temperament and personality traits, and social factors influence motivation. The interaction between intrinsic and extrinsic motivation and creativity may be more complex than the linear model proposed by most researchers. What is clear that more research needs to be conducted in real-world settings such as classrooms and industries to develop our understanding of the link between motivation and creativity.

The **environment**, the suitable space for creating ideas:

For creativity to be possible, we need freedom, which implies the:

- Acceptance and respect for **diversity**
- **Spaces** (physical, time, opportunity and resources) to investigate, explore, rediscover, play...
- The **support** of family and school
- Harmonious environment for feeling **confident**
- A framework which promotes the flow of **communication, respect** and **freedom**
- The **removal of obstacles**
- Procedures that do not involve challenges that reduce the ability to **innovate**

2.2.4 What influences creativity?

We know that creativity is heavily influenced by everything around us.

Three key elements make up creativity: a **problem, environment**, and **willingness to explore**, this last one related to **motivation**.

A problem is initially what spurs creative thinking, the pursuit of a solution is undoubtedly the single most powerful cause of idea exploration. You are less likely to explore new ideas for the world around you if everything is working perfectly. Creativity is therefore influenced by the problems and issues in your life.

Environment, in this case, is broken down into three subsections: first, your historical environment influences your creativity by giving you access to technology and pre-existing ideas that can help guide your new ideas. To quote Steven Johnson, author of *Where Good Ideas Come From*: *“If you look at history, innovation does not come just from giving people incentives; it comes from creating environments where their ideas can connect.”*

The second breakdown of environmental influence on creativity is an environmental awareness which allows you to understand the ideas that could pose solutions for your problem. This aspect is commonly referenced as *“imagination”*, where your understanding of the ideas around you influences what you believe to be possible (or impossible).

Lastly, the third deconstruction of environment as an influencer of creativity is one in which failure is acceptable. A hospital is not an environment that exactly welcomes failure, while a classroom – on the other hand – is (or should be) a prime environment for failures and the opportunity to learn from them in order to get things right. This brings us to the last element of what influences creativity: a willingness to explore (and fail). You can have a problem in your life, you can be a part of an environment that provides potential, solutions to your problem and grants you the wisdom to implement those solutions or to learn from your failures while trying, but if you don’t have the willingness to explore those options, none of this matters. This willingness to explore tends to be related to another important concept: motivation. Motivation is a personal drive to accomplish, *“the process of instigating and sustaining goal-directed behaviour”*.

According to Amabile, motivational orientation is both a trait and a state. As a trait, motivation encompasses one’s innate like or dislike of certain activities, due to temperament, personality, and previous experiences. People tend to be more creative on things they enjoy. As a state, motivation can be intrinsic or extrinsic. Traits tend to be relatively enduring, while states are influenced more by social environment. Intrinsic motivation is the motivation to work on something primarily for its own sake, because it is enjoyable, satisfying, challenging, or captivating, whereas extrinsic motivation is an external reward, *“the motivation to work on something primarily because it is a means to an end”*. Motivation is extremely important in creativity because it drives an individual to persist at problem solving. Creative potential is not fulfilled unless the individual (and his or her social support) is motivated to do so, and creative solutions are not found unless the individual is motivated to apply his or her skills. Intrinsic and extrinsic motivation are mediators of the relationship between creativity and three personality traits: openness of experience, self-efficacy, and perseverance.

2.2.5 How do creativity works in practice?

There are three related ideas:

- **IMAGINATION:** the process of bringing to mind things that are not present to our senses.
- **CREATIVITY:** the process of developing original ideas that have value.
- **INNOVATION:** the process of putting new ideas into practice.

In business, for example, different companies are creative in different ways. Apple, is famously good at creating new products. Starbucks, the coffee chain, in contrast, did not create any new product at all. They were creative providing and innovating services. They did not invent coffee, they created a particular type of culture around coffee. So, in short, creativity is possible whenever we are using intelligence.

2.2.6 Creativity in the school

Educational Considerations

As for the object of our concern, education, we could say, apart from categorizing the characteristics of the creative individual, that it remains clear that education in open environments (both regarding particular interests, as the different ways to do things) the respect for any original contribution, strange or not, and the permission to let abilities fly, the skills and strategies of each individual student, would be the golden rule in a creative school; the main idea would be to stimulate behaviours and results in any field of innovative learning activities; activities that produce learning in the individual.

2.2.7 Creative teaching

Educating from the area of creativity, you can reach the complete development capabilities including total logic. At school today, the techniques and teaching methods employed are based primarily on the processes determined by vertical thinking. For this reason, children with high creativity not only inhibit their potential but fails the objective of learning this type of structures.

The concept of teaching creativity has been around for quite some time. Academics such as Ellis Paul Torrance, dedicated an entire lifetime to the advancement of creativity in education. Torrance faced much opposition in his day about the nature of creativity.

Creativity was considered to be an immeasurable, natural ability. He advocated that it was skill-specific, requiring intentional instruction.

In recent times, there has been a shift towards the increased acceptance of valuing creativity for all learners. A TED talk by Sir Ken Robinson discussing this subject reached over 5 million viewers. It shows how our current school systems suppress creativity. He proposes that our current model leaves little room for divergent thinking. In the same way, David Hughes, founder of Decision Labs and professor at UNC Chapel Hill, argues that innovation is an essential skill for our global economy.

A teacher who encourages creativity...

- is respectful, not scornful.
- encourages active learning, not passive.
- supports individual interests rather than standardized curricula.
- asks questions, not statements.
- offers ambiguities, not certainties.
- offers open endings, not closed ones.
- more surprising than predictable.
- offers various patterns, not a standardized model.
- moves the class into varied environments.
- recognizes multiple intelligences.
- includes auditive and visual representations.
- uses touch-type activities and activities based on experience.
- stimulates more the social learning than the private learning.

The parents who stimulate creativity...

- provide a zone of creativity.
- encourage children to invent their own stories.
- know their talents and reinforce them.
- increase motivation.
- expose their children to music and drawing, or other artistic disciplines, from an early age.
- teach that trial and error is the pattern.
- do not focus on negative aspects and amplify the positives.
- see things from different points of view.

- change their inner dialogue: they do not say *“I do not know drawing”*, but *“I will try”*:

Some proposals useful for stimulating creativity in the classrooms are...

- embrace creativity as part of learning.
- use the most effective strategies.
- think of creativity as a skill.
- participate in or create a program to develop creative skills.
- use emotional connections: research suggests that the best creativity instruction ties in the emotions of the learner.
- consider how classroom assignments use divergent and convergent thinking.
- establish expressive freedom
- make the classroom an environment where students feel safe to share novel ideas.
- allow the class for mistakes.
- give students time to ask questions.
- encourage curiosity.
- find ways to incorporate and integrate art, music and culture.
- design multidisciplinary lessons when possible.

2.2.8 Creative schools

Personalized education

For personalized education we understand that it is the one that...

- 1) Respect the interests of the student, what the student wants to learn.
- 2) Respects the pace of learning of each student because it understands that every student learns at their own pace.
- 3) Promotes freedom of students in the classroom to provide space and tools to make them learn by themselves.

- 4) Advises the student to be able to regulate his or her own learning and to design and verify his or her own progress.
- 5) The teacher's role is to accompany the student to create the best conditions for promoting student's learning.
- 6) Offers a personalized assessment which involves not merely a score, a note referring to a rating that could be related to a series of standardized tests, but an assessment which looks at students' progress and the effort made, the interest demonstrated, and the ability to generate divergent and original, creative and personal solutions.
- 7) Does not leave gaps in the curriculum, without giving up socially relevant learning, covering the whole curriculum in a personalized and flexible way.
- 8) Involves creating an environment where students feel safe, respected and valued, and where all exploratory attempts that students do are valued and not neglected.
- 9) The protagonist of learning is the child, with his interests and development needs.
- 10) Promotes an active, rich and complex process where the child learns on its own, leading to more solid knowledge as it has more meaning for him than this learned by heart.
- 11) Assumes that knowledge is interconnected and not piecemeal. Children do not learn isolated data, but acquire a world-view.
- 12) Respect the natural curiosity and creativity of children.
- 13) Highly values all subjects or areas of knowledge, not prioritizing the scientific, technical, mathematical or linguistic content, over the social, humanistic and artistic skills, such as physical education, music, painting, dance or theatre.
- 14) Sees the error and mistake not as something negative, but as another way to learn.

The free and active education

It is difficult to define in a few lines, what free education represents. In addition, each project or free school have their own components that make them special and different from others.

However, most of this projects identify themselves with words such as respect, care, confidence, availability of adults, not judgement, logical consequences and help the child rather than with prizes and punishments, with emotional support, experience, love...

All free education schools are generally spaces not very crowded, with an average ratio of 1 adult / for every 6 or 7 children for the second cycle of Pre-Primary (from 3 to 6 years guidance), for example. This does not mean that an adult is always with the same group of children or that they are always in the company of the same children. On the contrary, the group of children is created spontaneously depending on their own interests and affinities.

Learning happens if it comes from an own impulse, when the whole experience is motivated intrinsically, without subtle adult's hints, when encompasses the whole person and all the aspects of psychomotor, emotional, social and cognitive dimensions.

Consequently, we could say that there is no previous curriculum, or the curriculum of these schools is generated in the action. There are no contents to be given at a certain moment of the educational process, nor does requires that a majority of children and / or adults / imposing its decision to minorities or individuals. In fact, all activities proposed by adults or other children are in principle voluntary, since they are merely proposals of experiences, from which every child, from the perception of their state and their current needs, decide whether to accept them or not.

The family is considered the principal element in raising and educating children. Many projects are created and coordinated from families, others are the responsibility of groups of educators, and there are projects with shared responsibilities. But in all cases, the inclusion and involvement of families is fundamental.

In short, free education aims to be an educational relationship based on acceptance and respect for the person that rests on the idea that the main function of education is to prepare individuals to join the workforce, but it represents a commitment to understand and help each other to grow in all dimensions.

All these principles are articulated in daily practice through environments and materials that are available for exploration and manipulation of children. There are a variety of environments, each with their quirks and limitations. Everything in a generally relaxed atmosphere, without external pressures or expectations to produce or have anything more than just being.

The creative school is also in the line of educators such as Maria Montessori, Célestin Freinet, Francesc Ferrer i Guardia, Rosa Sensat or Pere Verges, claiming that: *“we just learn what we learn for ourselves.”*

In the early years, children's brain are formed. The neural pathways that the child forms in his early years are the ones which will use throughout his adult life. During adolescence, the less used neurons are destroyed. When a child discovers something by himself, the neural connections he creates are richer and more complex than the ones produced with the learning by heart. So what you learn is important, but even more important is how you learn.

In the free, active and creative school, the protagonist of the learning is the own child, with his interests and development needs.

This active, richer and more complex process leads to a more solid knowledge because it has a meaning for the child. Moreover, there is no fragmentary knowledge, but interconnected knowledge. Girls and boys do not learn isolated data but acquire a world-view.

This way of learning respect the natural curiosity and creativity of children, two things they will remember all their life.

2.3 The arts

2.3.1 The arts in the society

The arts are an essential component of the development of the individual as a way to express themselves, learn, develop creativity, build self-esteem, the ability of feeling and being, the ability to become more solidarity as citizens, more capable and therefore more human and free.

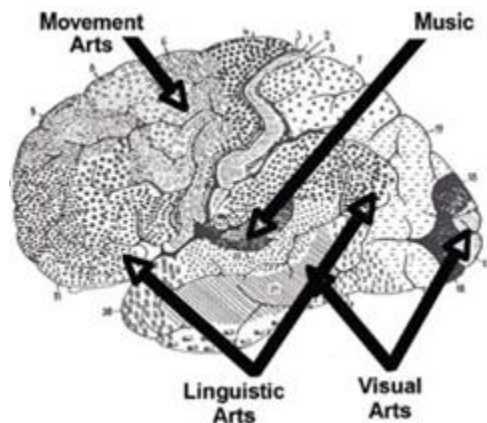
On the one hand arts education should be defined as an instrument of cultural identity which allows young people to learn and identify with their own culture. Teaching cultural and artistic expressions of a country allow their citizens to recognize and identify their cultural context. We must not forget that the artistic and creative process is a singular nexus between cultures. It is globalization and multiculturalism taken to its maximum positive expression.

On the other hand, this type of learning should be considered as essential to interact and work in their own cultural context. Develop creativity and the ability of expression and communication is essential for daily life, as a way of connection to the cultural environment and to the own life.

In short, just imagine a society without the influence of the arts. Take the collective memory from our museums, remove the bands and choirs from our communities, take away the plays and dance from our theatres or the books from our libraries, expunge our festivals, literature and painting, and you will be left with a society without identity.

2.3.2 The need of art in the individual and the artistic brain

Brain neuroimaging shows some clues revealing why the artistic activities are so important. For example, it is known that certain structures of the auditory cortex respond only to musical tones, that a significant part of the brain and cerebellum is involved in the coordination of all kinds of movements, as in dance, in the theatrical recreations regions of the brain specialized in speech are connected to the limbic system which give us the emotional component or, if we talk about the visual arts, they are very connected to our visual processing system that generates real or fictitious images easily.



As we can see in the image, each active artistic activity different brain regions. The music is processed in the auditory cortex is in the temporal lobe, the arts involving movement such as dance or drama activate the motor cortex, the visual arts such as painting is mainly processed in the occipital and temporal lobes, while the poetry or prose involve areas related to language processing.

2.3.3 The arts in education: why to teach the arts?

Art in all its manifestations is an essential characteristic that identifies the human being, has permitted to transmit culture in its entirety and has been and is essential for their survival. Our brain needs plastic art. Already in the early years and naturally the child plays, sings,

dances, draws and all these activities are essential for correct sensory, motor, cognitive, emotional and ultimately brain that will enable learning to learn. And doing all these activities the child has fun, proudly shows its findings to the other, trying to improve and this is an effective way to train one of the great human virtues: self-control. Art education is a necessity not because make us smarter but because it allows us to gain a range of skills and mental routines that are fully consistent with the social nature of human beings and are essential for learning any curricular content. This is useful for all students, so it becomes a great way to address diversity in the classroom.

Studies that have examined the implementation of arts education in the classroom have revealed that the most powerful effects are on those programmes that are fully integrated into the curriculum and that when this occurs, multiple benefits associated with student's learning and their behaviour are obtained.

The most significant are:

- There is a greater emotional involvement of the students in the classroom.
- Students work more actively and learn from each other.
- Cooperative learning groups become classes in learning communities.
- Learning is facilitated in all subjects through the arts.
- Teachers collaborate more and have higher expectations of their students.
- The curriculum becomes more real to be based on learning projects.
- The assessment is more thoughtful and varied.
- Families are more involved.

From the neuroeducational perspective, we are particularly interested in three essential factors for learning the arts can improve: the memory, the emotions, and creativity.

Memory

In a study, students from fifth grade (10-11 years) were taught units related to scientific fields (astronomy and ecology), using two different procedures: one was the traditional method and in the other arts were integrated into the unit. In the second case, students were active with defined learning objectives that included theatrical performances, drawings and posters, recreation movement or use of music. Analysis of the results revealed that students who participated in the study unit in which artistic activities were integrated improved the long-term memory.

Emotions

In a three year study it was intended to analyse how it affected the integration of different artistic personal conditions development of pupils aged between 9 and 15 years belonging to socio – economically disadvantaged backgrounds. In the first part of the program students were allowed to choose between different art forms such as music, painting, video recording, scriptwriting or design of masks. In the second, the art form chosen was deepened through cooperative work. And in the final stage, a play was staged and a video was recorded.

The three years of the program showed that students improved their artistic and social skills, reduced their emotional problems and, in general, developed a range of interpersonal skills such as communication, cooperation or resolution of conflicts.

Creativity

The arts teach children that the real problems often have more than one possible solution, which is necessary to analyse the tasks from different perspectives, that imagination is a powerful guide in solving processes or that there are not always defined rules when they have to make decisions.

When the arts are integrated into the creative teaching practices, they promote the creative and the divergent thinking in students and not only that, but also develop a deeper thought.

As an example we could take the *“Artful Thinking program”* developed by the *Harvard Project Zero*, which used the power of visual images, such as works of art, to stimulate students in processes such as curiosity, observation, comparison or relationship between essential ideas for the development of creative thinking and learning.

Moreover, there is a strong relationship between arts and cultural engagement and educational attainment. We see an improvement in literacy when young people take part in drama and library activities, and better performance in maths and languages when they take part in structured music activities.

The arts are an essential component in the formation of individuals, and they should be valued not only as a way to promote creativity and enjoyment, but also as an object of knowledge.

2.3.4 The arts in education nowadays

Through art, the human race is able to express entirely. There is a no more effective resource to achieve quality education than ensuring that children are interested in school curriculum and enjoying it from an early age.

Integral education requires the teaching of the arts. Through the arts, human beings express their feelings, their ideas, and their sensitivity.

For years the importance of arts education has focused particularly on those who were to undertake their work within one of their areas -dance, music, drama... -and therefore outside systems education, relegating them to the realm of non-school training.

Today, fortunately, advances in science research on education and development have demonstrated the importance of the arts as areas that offer the possibility of transforming the human dimension, both in the fields of knowledge and the emotional, social and spiritual.

However, despite this progress, the awareness of the importance of art in schools is still not enough. Not being considered a priority area of knowledge, it has been left out, as something external to learning, or with a little weight within the school curriculum. Even today many countries still do not incorporate arts education in their school programmes or the number of hours spent is clearly insufficient. Similarly, in many cases, teachers in charge of this area lack adequate preparation.

Learning art and culture in schools is one of the most powerful ways to the construction of an intercultural citizenship. Experts say that it should be an aim to get young people involved through arts education, to know their roots and appreciate different artistic expressions that coexist in countries, allowing them to recognize, respect and value the diversity and cultural richness of the region.

This is a challenge that ministries of Education and Culture must tackle in a coordinated manner, together with organizations and entities linked to society civil, in order to create a space for support and for building a cultural citizenship and the formation of public for the arts. The educational system should see art education as a part of the process of teaching and learning, take it into account in a much more meaningful way and promote the arts by, for example...

- ✓ Providing a meaningful curriculum ensuring the acquisition of basic skills for personal development and the exercise of democratic citizenship.
- ✓ Offering a curriculum in which art education has an important role and stimulating interest in science among pupils and students.
- ✓ Devoting some time each week to arts education in schools.
- ✓ Devoting at least three hours to arts education in primary education and secondary education.
- ✓ Having a percentage of teachers of art education with certificates established.

From dance and music to theatre, visual arts and new forms of digital art, all arts provide to children unique forms of expression, allowing them to explore new ideas, approaching from different reality and prospects to participate, understand and respect their own culture and of others. Arts education not only enables students to better understanding of the world around them, but also broadens their perspective to face new problems, to create and express challenging the intellect.

2.3.5 Teaching the arts

Art education is a key element to work.

There are two fundamental problems we find in the current way of teaching arts today:

- The teaching is not based on workshops and artistic activities but only in the transmission of art history theories.
- It is considered that this teaching is aimed at developing art appreciation and not as a human faculty. It is ironic that we appreciate art but we do not develop our skills and artistic abilities.

The art as an object of knowledge requires specialized teachers, with adequate preparation.

In general there is a lack of professionalism of those who teach this subject.

It is necessary to provide and ensure quality training, consider that arts education is an important skill for the development of the students and, therefore, it requires teachers with new profiles.

Also, this professionalization of teachers in arts education means necessarily the need for develop and adopt new teaching models for implementation in the classroom. It is not

possible to provide new ways and give more emphasis to the arts in schools, continuing with models and practices used up until now.

The teaching staff of all school levels should approach to art, and use it as a working tool for the development of creativity, imagination and innovation, with dynamic teaching models.

2.3.6 The real challenge

In conclusion, achieving these goals requires, according to the opinions collected, the involvement of public administrations.

Firstly, specific programmes working on visual, auditory, kinaesthetic, dramatic or narrative aspects should be done and all the members of the educational community become involved and secondly, it is necessary to increase the hours spent at arts education in the school schedule.

It would be great to integrate art into the schools. It is essential also as a way to prevent accidental dialling of students who do not get good grades in the *“traditional subjects”*, labelling them as losers or children with special needs.

Design an educational curriculum to rescue our artistic and cultural values it is a challenge, but revalue art education in the classroom and outside of it is a priority.

In general, the process of incorporating artistic education in school, with one adequate teacher, with enough hours in the curriculum, and with new pedagogical models it is a difficult challenge to achieve, but we are on our way to make it happen.

2.3.7 The hierarchy of subjects

Unfortunately, in almost all societies there is the same hierarchy of disciplines in elementary and high schools. At the top, are mathematics, languages and sciences. Then, we find humanities: history, geography, and social studies. After these, physical education, and finally, at the bottom, are the arts. Still, there is another hierarchy within the arts: art and music tend to have a higher status than dance and theatre.

There is not a school system that teaches dance everyday as a compulsory discipline in the way that maths are taught. The hierarchy shows itself in the amount of time that are given the different disciplines, whether they are optional or compulsory, whether if they are in the mainstream curriculum or after school, whether if they are included in standardized tests

and how much feature in political polemics about *“raising standards”*. Whatever the standards are the most countries want to raise, they do not seem to have much to do with the arts teach. The curriculum of most schools systems usually is divided into two groups: the useful disciplines and the useless ones. Languages, mathematics, science and technology are useful. On the contrary, history, geography, art, music and drama are not. When funding is tight or reform movements focus on raising standards, arts programs are usually cut.

As an example, in 2001, the Federal Government of the United States made the Elementary and Secondary Education Act (ESEA) generally known as “The No Child Left Behind Act 2001” (NCLB) into law. Its aims were to raise academic standards in all schools, to make teachers accountable for student achievement, to raise levels of college training and in these ways to reinvigorate the economic competitiveness of the USA. The main methods were to intensify programmes of standardized testing for languages and mathematics and to link funding for schools to students' performance on the tests. In practice, it failed to meet its objectives and it has been condemned for demoralizing teachers and students, for instilling a numbing culture of teaching to the test and for encouraging schools to adapt testing systems to avoid financial and other penalties.

According to one study, when the NCLB was made a law, almost half of the school district eliminated or reduced their arts programmes. Policy makers emphasized that devastating arts education was not the intention of the legislation. Surely it was true. But the minds of the policy makers were so focused on the disciplines at the top of the hierarchy that they forgot about the others, and the arts suffered from collateral damage.

Why do disciplines at top of the hierarchy get all the attention, and why does this hierarchy exist in the first place?

The first answer is **ECONOMIC**: some disciplines are assumed to be more relevant to the world of work and to get a higher rate of pay. Generations of young people have been steered away from the arts with pieces of advice like: “Do not do art, you will not make it professionally as an artist”. *“Do not do music, you will not make a living with music”*. (*Who has not heard phrases like this more than once?*) On the contrary, children are not usually told *“Do not do maths, you are not going to be a mathematician”*, or *“Do not do science, you will not make it as a scientist”*.

The arts are often thought to be important in schools for other reasons: as opportunities for creativity and self-expression or as leisure or “*cultural*” activities. Unfortunately, when time are hard, many people seem to forget about it and take for granted that arts are not relevant to the business of making a living.

In our world, the sciences are associated with the truth and objectivity, fact and reality, and the arts with feelings, emotions and intuition. The arts are seen as dispensable extras in education, something optional to do with self-expression, relaxation and leisure.

The second reason is **CULTURAL**: the disciplines at the top of the hierarchy are assumed to be more important. This idea has to do with cultural ideas about knowledge and intelligence. These kinds of ideas have dominated our ways of thinking for the past 300 years.

2.4 Theories and propositions (authors)

2.4.1 Joy Paul Guilford

Joy Paul Guilford (*March 7, 1897 in Marquette, Nebraska – November 26, 1987 in Los Angeles*) was a United States psychologist, remembered for his psychometric study of human intelligence, including the distinction between convergent and divergent production.

Divergent Thinking and Creative Thinking

Guilford is the first author that gives an operational definition of creativity, and he identified primary cognitive traits related to it:

- **Fluency:** Grade continuity of production associations between elements. Applied to many types of content (auditory, visual ...) this affects all the possible associations between producible units or systems. Ensures the amount of available ideas by subject.
- **Flexibility:** The ability to redefine the parameters of the problems, to increase the probability of finding alternative solutions to the problem. This is referred to generating ideas with different degrees of diversity.
- **Originality:** A more subjective criterion, which requires a trial of the products of creative thinking to establish it. Usually asks experts. Difficult to obtain objective evaluation criteria.

He also presented a structural model of intellectual intellect, establishing a direct relationship between creative and divergent thinking.

The divergent thinking is a cognitive operation, through which, based on specific information, the subject is able to generate multiple related pieces of information.

The production of new and alternative ideas can come from memory, or from the modification of content memorized that can be re-used to generate new ideas.

The creative thinking seems to be the core of what is called "creativity."

It is assumed that creativity involves a certain type of cognitive thinking. In the beginning of the approaches on creativity, it was considered that creativity was closely related with the levels of intelligence of these individuals, as a result of this idea, creativity was considered as a "gift" of nature.

In general, it is understood that creative thinking is formed by a set of cognitive processes of particular relevance for the resolution of problems.

Although there is no consensus on definition, we can say that creative thinking considers four stages that are unconscious for the individual who is using creative thinking: preparation, incubation, illumination and verification.

Creative thinking and personality

There are studies that talk about the different traits of creative individuals (Sternberg, 1985). It has been observed that most of these are defined with a high degree of self-reliance and a degree of selfishness; they are curious, enthusiastic, active and sensitive people. We can stand out:

- **Absence of conventions:** keeping an open mind, not orthodox.
- **Ability to integrate:** integrating some apparently unconnected information.
- **Aesthetic and imagination:** ability to appreciate art. Tasteful overall
- **Flexibility and choice:** knowing how to defend strongly the decisions taken. However, if necessary, being able to know how to change your mind.
- **Insight balance:** knowing how to take advantage of the situation if necessary.
- **Motivation,** persistence to overcome obstacles, courage; believing in yourself

- **Interest in the recognition of others:** a part of their own intrinsic motivation.

Creative thinking is the result of person-situation and not just the unique cognitive aspects of the individual.

2.5.2 Ellis Paul Torrance

Ellis Paul Torrance (October 8, 1915[1] – July 12, 2003) was an American psychologist from Milledgeville, Georgia. Torrance is best known for his research in creativity. He created the *“Future Problem Solving Program International”*, the *“Incubation Curriculum Model”*, and the *“Torrance Tests of Creative Thinking”*.

Contributions of Torrance

Torrance, based on Guilford's work, said that one can speak of creative thinking when it meets at least one of the following conditions:

- **The product of thinking represents a certain value and novelty** (for individual or for the community).
- **The thinking is unconventional** (there have been some modifications or rejection of ideas already accepted previously).
- **Thinking requires a deep and lasting motivation.**
- **The problem is undefined initially** (part of the work involves the formulation of the problem).

Torrance was also worried about giving an operational definition of creativity, and in designing a battery of tests for that purpose. He especially investigated the relationship between creative thinking and education (importance of family and school environment).

2.5.3 Howard Gardner

Howard Gardner, the psychologist and researcher focused in the field of education, professor of Harvard University (where he studied) and holder of a Prince of Asturias Award, has identified eight distinct intelligences. His theory is a model proposed in his 1983 book, *Frames of Mind: The Theory of Multiple Intelligences*, where intelligence is not seen as something unitary grouping different specific skills at different levels of generality, but as a set of multiple, distinct and semi-independent intelligences.

According to Gardner, intelligence is...

- ✓ The **ability** to create an effective product or offer a service that is valued in a culture.
- ✓ A set of **skills** that make it possible for a person to solve problems in life.
- ✓ The **potential** for finding or creating solutions for problems, which involves gathering new knowledge.

And these are the eight intelligences...

1. Musical – Rhythmic: It is Intelligence, which perceives, transforms and defines music and its forms. The sensitivity, rhythm, pitch and timbre associated with this type of intelligence. People who are attracted to nature sounds or melodies. Composers, conductors or musicians are good examples.

2. Visual – Spatial: It is the ability to think in three dimensions. A capability that allows us to perceive external and internal images, transform or modify them, and produce graphical information or decode images. Pilots, sculptors, painters, architects and marine, are a clear example.

3. Verbal – Linguistic: Intelligence to use the words of oral or written effectively. We find this kind of intelligence in writers, journalists and communicators. Students with language learning skills, writing stories, reading... They are using both hemispheres.

4. Logical – Mathematical: Intelligence used in solving problems of logic and mathematics. It is the ability to use numbers accurately and to reason properly. Is the intelligence that usually corresponds to scientists, mathematicians, engineers and those who employ reasoning and deduction, (working with abstract concepts, develop experiments). They especially use the right hemisphere.

5. Bodily – Kinaesthetic: Intelligence that uses the whole body to express ideas and feelings and the ability to use your hands to transform objects. The capabilities of balance, flexibility, speed, coordination, kinaesthetic ability as well, or the perception of dimensions and volumes are manifested in this type of intelligence. Athletes, surgeons, artisans, dancers, are the most representative examples.

6. Interpersonal: Is the ability to empathize with others. Adopting a special sensitivity to understand facial expressions, (voice, gestures, posture), and the ability to respond. Present in political, vendors and renowned teachers.

7. Intrapersonal: It is the intelligence to build an accurate assessment on the respect of self and the ability to direct their own lives. It includes reflection, self-understanding and self-esteem. It is appreciated in theologians, psychologists, sociologists, and philosophers, among others.

8. Naturalistic: It is the ability to differentiate, sort, and use the environment. They deal with objects, animals and plants. (Both in urban environment or rural). Skills of observation, reflection and proposals on the environment. We find it clearly in botanists, hunters, ecologists, and in people who love plants and animals.

Each individual possesses a unique blend of all these intelligences.

This theory emerges from recent cognitive research, and according to Gardner, *“students possess different kinds of minds and therefore learn, remember, perform, and understand in different ways.”*

“We are all able to know the world through language, logical-mathematical analysis, spatial representation, musical thinking, the use of the body to solve problems or to make things, an understanding of other individuals, and an understanding of ourselves. Where individuals differ is in the strength of these intelligences and in the ways in which such intelligences are combined to carry out different tasks, solve diverse problems, and progress in various domains”, he says.

He supports the idea that students learn in ways that are distinctive and criticizes the current educational system, saying that this system assumes that everyone can learn the same materials in the same way, measuring the student learning with uniform and universal tests. Moreover, he also criticizes that our educational system is heavily biased toward linguistic modes of instruction and assessment and toward logical-quantitative modes as well.

Gardner argues that *“a contrasting set of assumptions is more likely to be educationally effective”,* and that education should guide students to find their dominating ability and type of intelligence. This way, most of them would take advantage of their capacities and would be prepared to meet an increasingly competitive world.

The multiple intelligences theory believes that all human beings possess the eight intelligences in varying degrees.

Cognitive neuroscience research does not support the theory.

That it is because some of Gardner's intelligences correlate with the "g factor", supporting the idea of a single dominant type of intelligence.

	ENJOYS	LEARNS BETTER BY
Musical – Rhythmic	Singing, humming, playing an instrument, listening to music	Using rhythms, melodies, singing, listening to music and melodies.
Visual – Spatial	Designing, drawing, building, looking at pictures, reading maps and graphics, doing puzzles and mazes	Working with patterns and colours, visualizing, drawing
Verbal – Linguistic	Reading, writing, telling stories, talking, doing puzzles	Reading, hearing and seeing words, speaking, writing, discussing and debating
Logical – Mathematical	Problem solving, questioning, working with numbers, experimenting	Using patterns and relationships, classifying, working with the abstract
Bodily – Kinaesthetic	Moving, playing and dancing, doing theatre, crafts, manual skills and body language	Touching, moving, processing information through bodily sensations
Interpersonal	Having friends, talking to people, meeting with people	Sharing, comparing, relating, interviewing, cooperating
Intrapersonal	Working alone, reflecting, pursuing their own interests; encouraging self-discipline	Working alone, doing projects in their own, having space, reflecting
Naturalistic	Participating in nature, making distinctions	Working in the natural environment, exploring living things, learning about plants and nature issue

The “g factor” (general factor) was proposed by the English psychologist Charles Spearman in the 20th century. He suggested that all mental performances could be conceptualized in terms of a single general ability factor and a large number of narrow task-specific ability factors. Anyhow, the ideas of multiple intelligences are attractive to many due to the suggestion that everyone can be smart in some way.

2.5.4 Ken Robinson

“The challenge is not to reform education but to transform it. As we face a very uncertain future, the answer is not to do better what we've done before. We have to do something else”.

Sir Ken Robinson is an internationally recognized leader in the development of creativity, innovation and human potential. He advises governments, corporations, education systems and some of the world's leading cultural organizations. He speaks to audiences throughout the world on creative challenges facing business and education in the new global economies.

He has a PHD in education, he is Professor Emeritus of Education at the University of Warwick in the UK and he has worked with governments in Europe, Asia and the USA, with some of the world's leading cultural organizations, among others, and he is a specialist in creativity.

In his talks, he raises a number of issues related to these two fields in a very lucid and clear way, education and creativity, and its principles suggests that formal education, designed several centuries ago, kills creativity and only those who strive to fit within that system triumph in it.

In 2006, he gave a talk at the TED conference in California called *“Do schools kill creativity?”*. The essence of that talk was that we are all born with immense natural talents, but by the time we have been through education too many of us have lost touch with them. *“The consequences are disastrous for individuals and for the health of our communities”*, he says. He have now worked in education for more than forty years as a teacher, researcher, trainer, examiner and adviser, and he has also worked with all sorts of people, institutions, governments, and cultural organizations.

Ken Robinson’s ideas

The first thing Ken Robinson defends is the need to rethink our view of intelligence and the need to rethink the fundamental principles on which we are educating our children.

First of all, we know three things about intelligence:

- **It’s diverse:** we think about the world in all the ways we experience. We think visually, we think in sound, we think kinaesthetically...
- **It’s dynamic:** intelligence is interactive. Creativity comes through the interaction of different disciplinary ways of seeing things.
- **It’s distinct:** he explains case of Gillian Lynne who is a multimillionaire choreographer and who at school was thought to have a learning disorder. In what is a stroke of luck, although at first glance it may not seem so, the doctor Gillian's mother consulted told her better to take Gillian to a dance school because he saw she was a dancer who did not have any problem at all. Gillian's mother did so and a few decades later Gillian is a legend in her field. Somebody else might have put her on medication and told her to calm down when young Gillian couldn't sit still. *“People like me have to move to think”* said she once.

Then, we need to know aims of education: enable students to understand the world around them and the talents within them so that they can become fulfilled individuals and active, compassionate citizens. For that, our task is to educate their whole being, so they can face their present and future.

He says creativity is the greatest gift of human intelligence, and as he sees it, the more complex the world becomes, the more creative we need to be to meet its challenges. For that, we will have to promote a creative revolution in education. We live in a world that's shaped by the ideas, beliefs and values of human imagination and culture. Thinking and feeling are not simply about seeing the world as it is, but having ideas about it, and interpreting experience to give it meaning. Different communities live differently according to the ideas they have and their experiences. In literal sense, we create the worlds we live in. We can also re-create them. The great revolutions in human history have often been brought by new ideas: by new ways of seeing that have shattered old certainties. This is the essential process of cultural change.

Sir Ken Robinson also defines the **roles of education:**

- ✓ Personal or individual: to develop individual talents and sensibilities.
- ✓ Cultural: to deepen the understanding of the world.
- ✓ Economic: to provide the skills required to earn a living and be economically productive.

Ken Robinson reflections

- **Imagination is the source of all human achievement.**

We all have infinite powers of creativity and imagination.

- **If you are not prepared to go wrong, you'll never get anything original.**

We have designed a society where we stigmatize mistakes. Children are not frightened of being wrong. But, as they grow up, society makes them feel insecure. By the time they get to be adults, most kids have lost the capacity of imagining, innovating and creating. They have become frightened of being wrong.

- **Creativity is as important in education as literacy or mathematics**

Another of the major problems of education today is not given the same importance to the subjects and a large imbalance is created.

- **We learn creativity as we learn to read or count**

The development of creativity revolves around stimuli that the child receives. The educational model today kills this and many children never get to discover their passions and end up frustrated thinking they are not brilliant in any activity.

- **Education is not linear**

One of the mistakes in our education system and our society is to think that education is linear. Learning is not a linear but organic process. The paradigms that exist in the education system that students try to walk on the same path already marked and straight,

forgetting that perhaps the right thing would be to let each student decide how and where they want to walk, and create their own path.

- **The important thing is not what is taught, but how it is taught**

What matters is not what teachers teach, but how you teach. Apart from learning the contents of a book, students must have tools to use in their future and their present, and be able to solve possible problems.

- **People produce the best, when they do things they love, when they are in *"their element."***

Ken Robinson often refers to the concept of element. Each individual must find *"his element."* This means they should be able to find their talents, their passions, their attitudes and opportunities. If successful, then we can self-fulfill.

- **Schools look like factories**

Ken Robinson criticizes the fact that in many schools, students look like workers, and not like students. He questions the rigidity of schedules, the separation of students by their age, the *"jet lag"* of the subjects and the prioritizing the manufactured product rather than talent and creativity.

Related to this last one reflection, something very interesting that Ken Robinson strongly states is that current systems of mass education are a catastrophe themselves, because far from looking to the future, they are facing towards to the past. His question is *"does school kill creativity?"* and he explains it in that way...

The educational system

We take for granted that governments should provide mass systems of education and that they should be funded from the public money, but these assumptions are relatively new. Only from the 1860s countries throughout Europe, and many of the American states, began to establish mass systems of public education. Education appeared basically because of practical economic needs, individual philanthropic passions, competing movements of social reform and widely differing philosophical convictions. In many countries, the spread of industrialization in the 19th Century radically changed the face of the labour force and created entirely new social structures. Pre-industrial societies were dominated by the interests of the old aristocracies and the churches, which usually had authority over illiterate poor rural populations. The rise of industrialism generated new streams of wealth and a new social force: the middle classes. For the first time, industrialism also provided the financial resources to pay for systems of mass education. As millions of workers migrated from the countryside to the cities, in order to work in factories and shipyards, a third social group

began to take shape: the urban working classes. For some, schools were a way to raise the aspirations of the working classes and to lift them out of poverty and despair. Others saw education as the best way to promote opportunities and values of healthy democracies. Others just saw education less idealistic as the most efficient way of inculcating the working classes with the habits and disciplines that were essential for industrial production. For these reasons, elementary schools sprang up throughout Europe in the late 1860s, 1870s and 1880s. Such systems were inaugurated in Hungary in 1868, Austria 1869s, England 1870, Switzerland 1874, The Netherlands, 1876, Italy 1877, and Belgium 1879. Finally, by the time of the Civil War, “the common school movement in the United States had accomplished its aims of achieving popular systems of elementary schools in most states. Some sceptics argued that it was a waste of public resources to attempt to educate the children of the working classes because such children were uneducable and would not benefit from these efforts. (They were wrong about that). Others feared the social and political consequences: educating the working classes would give them ideas above their station and lead to a social revolution. (They were not wrong about that).

Education systems in Europe and North America were designed to meet the labor needs of an industrial economy based on manufacturing, engineering and relating trades, including construction, mining and steel production. In short: industrialism needed a workforce that was 80 percent manual and 20 percent administrative and professional.

This requirement had a deep influence on the structure of public education systems.

The education model was shaped like a pyramid: a broad base of elementary education, and a narrow peak of higher education. The majority of kids went to elementary school and a smaller number went to high school. The majority of those who continued education, left at 16 to find work. A small portion went on to access still higher education. Those with strong academic qualifications went to universities, to trade colleges or polytechnic schools.

The rise of industrialism influenced not only the structure of mass education but also its culture. Like factories, nowadays schools are special facilities with clear boundaries that separate them from the outside world. They have set hours of operation and prescribed rules of conduct. They are based on the principles of standardization and conformity. Students within the academic system are taught broadly the same subjects and they are assessed using common scales of achievement, with few opportunities for choice or deviation. Typically, they move through the system in age groups: all the five-years-olds together, all

the six-years-olds together... as if the most important thing that children have in common is their *“manufacturing date”*. In high schools, the day is organized into standard units of time and the transitions are marked by the ringing of bells. Teaching is based on the division of labour. Like an assembly line, students go from one room to another to be taught by different teachers specialized in separate disciplines.

Education systems also operate on the manufacturing principle of linearity, in that there are different sequential stages to the process. Each stage is meant to build logically on the one that precedes it. The idea is that if students move forward in the prescribed way through the system, and if they finish college, they will emerge at the end and educated and prepared for whatever the world throw at them. But, too often, this is not what happens.

We are not products. We are alive. We have feelings and opinions, values and motivation, hopes and aspirations. Ignoring the human factor is the cause of the problems that industrial systems of educations have created. Education is not only a preparation for what may come later. It is also about helping people engage with the present.

Systems of mass education are built on two pillars.

- **ECONOMIC:** they have been shaped by specific assumptions about labour markets, many of them are now out of date.
- **INTELLECTUAL:** they have been shaped by particular ideas about academic intelligence, which disregard other abilities that are just as important, especially for creativity and innovation.

Does school kill creativity?

Almost every education system has its bases on the idea of academic ability. Ken Robinson believes the reason for this is as follows: public education systems were created in the 19th century to meet the needs of the industrial revolution. So, two ideas are the pillars of education systems: the first is they have the most useful subjects for work at the top (it does not matter if you like to dance, you will not be taught to dance everyday as you are taught maths, because this last subject is a more important tool to know if you want to work as something) and the second is academic ability (which dominates our view of intelligence in the way universities designed the system to let people access it: the whole system is a protracted process to enter university).

And this is why, in our education system, our kids are steered away from things they could be great at like, for example, music or art. Consequently, many brilliant, creative and highly-talented people think they are not because, at school, the thing they were good at was not valued but stigmatized as useless.

The example of Gillian Lynne previously mentioned is a way of doing something right in a child's education: putting the kid into an environment which fits his or her skill set and stokes their passion. Gillian was fortunate to find her path to what was her passion. She found her place. Contrary to what our educational systems do: we have standardized testing in a structure which alienates students. We are not focusing on making the individual flourish and maybe this is one of the reasons many students drop out before graduating.

If an educational system has a high school dropout rate of over 20%, which is the case of Spain, you can't just blame the kids for it. The dropout rate reflects the disconnection between what and how schools teach and what kind of education resonates with people.

Ken Robinson says schools stamp out creativity mainly for three reasons: they're industrialized, they create a hierarchy of subjects and the classes are rigidly timed. Schools are industrialized because, as we said before, public education systems grew as a response to industrialism. Standardized testing allows to look at things to which individuals can conform and not to get what individuals can do. This is toxic for students. Schools have to organize around helping students find the disciplines that most motivate them. This requires a shift from standardization to personalization. Robinson believes education it is about creating a movement in which kids develop their own solutions and schools providing the external support based on a personalized curriculum.

Our current education system is hobbled by assumptions about intelligence and creativity that have forgotten about a lot of talents and stifled the creative confidence of a lot of people. That seems to be cause of an obsession with certain types of academic ability and from a preoccupation with methods like standardized testing.

Like in factories, they emphasize linearity, conformity and standardization. One of the reasons they are not working today is because our now real life is organic, adaptable and diverse.

Life is not linear. When you follow your own true way you create new opportunities, meet different people, live different experiences and create a different life and way of thinking. As life itself, education is also not linear. It is not a linear process of preparations for the future:

it is about cultivating the talents and sensibilities through which we can live our best lives in the present and create the best future for us all.

2.6 Teaching and pedagogic methods

2.6.1 Maria Montessori

"The things he sees are not just remembered; they form a part of his soul." - Maria Montessori

The Montessori method is an educational one developed by Dr. Maria Montessori in the early twentieth century.

Maria Montessori (31 August 1870-6 May 1952) was an educator, pedagogue, psychiatrist, philosopher, anthropologist and biologist, known for the philosophy of education and her writing on scientific pedagogy.

Her system offers a space adapted to children where they can live all day watched by a governess. Parents can enter the control center and the activities carried out by their son, provided they do not disrupt the smooth functioning of the method.

Initially it was designed for children with mental disabilities, but from 1907 it began to be applied to all children in the Case dei Bambini in Rome. This method is based on the principles of freedom, autonomy and independence. The system is to organize the classroom so that children feel free to come and go, choose their occupations, work, talk to them or do nothing.

The Montessori method aims to prepare children for their adaptation to the adult world. Children have a natural impulse and an irresistible tendency to grow. You cannot adapt it to the demands of society. The environment aimed at children should not be able to influence them, but corresponded to their wishes; it should not be "training" but basically "telling."

This method is a philosophy of education, an area that has some materials and techniques of learning in all curriculum areas (maths, language, biology, zoology, geography, music, visual arts...) and a teacher to guide the child in their way of learning.

In the pedagogy of Montessori we see again that the creation of spaces of freedom for children becomes very desirable. We also see that the consideration of the child suggestion

as the centre of the educational task is obvious. It's not so much what to teach but to whom, how and in what manner; and in any case, what the child is ready to learn.

If we look at things this way, we can see that the child has a natural tendency to free growth, and the need to provide an environment that is "suggestive", to facilitate this growth momentum (We should not try to model or force the growth of children in the way we have decided).

In other words, in connection with a new vision of education, it would be to accompany and encourage, stimulate, assist and guide the activities of exploration, discovery and growth of the child.

All of the above are attitudes and ideas that encourage an educational renewal desired by many people to an education system that can be overused and outdated but takes a new impulse; new impetus to perhaps look back (to things already said and perhaps: maybe forgotten or never fully implemented) to take power in the new leap forward, now accompanied by newest technologies and supports.

2.6.2 Celestin Freinet

Celestin Freinet (Gars, October 15, 1896 - Vence, October 8, 1966) was a French pedagogue, creator of the techniques that bear his name, used in numerous methods of educational research.

It is interesting to know that his own school days were deeply unpleasant to him, and this would affect his teaching methods and desire for reform. In 1915 he was recruited into the French army and was wounded in the lung. He never recovered completely, and suffered through his life from a shortness of breath. This was partly responsible for the nature of his educational innovations.

Educational reforms

In 1923 Freinet purchased a printing press, originally to assist with his teaching, since his lung injury made it difficult for him to talk for long periods. It was with this press that he printed free texts and class newspapers for his students. The children would compose their own works on the press and would discuss and edit them as a group before presenting them as a team effort. They would regularly leave the classroom to conduct field trips. The

newspapers were exchanged with those from other schools. Gradually the group texts replaced conventional school books.

Freinet created the teachers' trade union C.E.L. (Coopérative de l'Enseignement Laïc) in 1924, from which arose the French teacher movement *Modern School Movement*. The goal of the C.E.L was to change public education from the inside with the co-operation of teachers.

Concepts of Freinet's pedagogy

- Pedagogy of work: pupils were encouraged to learn by making products or providing services.
- Enquiry-based learning: group-based trial and error work.
- Cooperative learning: pupils were to co-operate in the production process.
- Centres of interest: the children's interests and natural curiosity are starting points for a learning process
- The natural method: authentic learning by using real experiences of children.
- Democracy: children learn to take responsibility for their own work and for the whole community by using democratic self-government.

Nowadays the concepts of Freinet's pedagogy seem perfectly acceptable.

If we analyse them one by one we would see their value for our times:

- The ability and knowledge to produce goods or services is a real demand of society and the economy.
- Learning by trial and error and the positive feedback that derives from error are enriching the individual learning process.
- The need to work cooperatively in an increasingly complex world seems the only way to deal with the growing challenges facing human societies.
- The “Centres of interest” and personal motivation towards a subject, are able to organize and energize the "desire to do" like nothing else you can do.
- The approach to the natural environment, and the real experiences of the students themselves, are richer than any bookish, theoretical or virtual learning.

- The capacity and the exercise of self-responsibility in learning and democratic behaviour socially produce greater benefits to the individual and for the group which is learning.

All these principles established nearly a century ago seem to remain valid today. This should not be strange if we consider that they were to respond to needs arising from the condition of being human, a social person, of which we have not given up despite the growing technology evolution; clearly, the child is still a child, and he or she still maintains the need "to be" with other children, and "to play" with other children, and "to learn with and other children", and feeling excited "by themselves" and "by others" regarding certain things.

Perhaps the educational reform movement is still alive, still present, because human nature has not changed for a long time; perhaps it is the moral values that are most likely to change in each historical moment.

A modern school, close to its students and the society of its time, should take innovation, creativity, art, individualization, flexibility, and the originality in the way of doing things and the device used, as the best way of promoting education and development of their students; as the best way to promote healthy individuals, happy persons, sensitive and socially proactive people, people looking at their own wellbeing and that of the others.

"The school must not lose interest in the moral and civic education of children, as this training is not only necessary but essential, because without it there cannot be an authentic human development". - Freinet

"You cannot prepare your students to build the world of their dreams, if you no longer believe in those dreams. You cannot prepare them for life, unless you believe in it. You will not be able to show the way, if you are sitting tired and discouraged at the crossroads." - Freinet

2.6.3 Jean-Ovide Decroly

Jean-Ovide Decroly (Ronse, July 23, 1871 – Ukkel, September 10, 1932) was a Belgian teacher and psychologist.

Nowadays the "Ecole Decroly" (based in Uccle, Brussels, reaching from kindergarten to school and to baccalaureate (A levels)) is following his pedagogical approach.

Centres of interest and the **Decroly method** (*Decroly techniques are more effective in the years of initial cycle*)

Globalization is the way of working in an interdisciplinary way.

The way the child learns is basically global (global and synthetic, rather than analytical).

The “interest centres” and “projects” proposed by Decroly, respond to this way of working globally.

The centres of interest are based on the needs of children to create some topics of interest.

The curriculum is inclusive.

It is a **methodology** with **three stages**:

1. Direct and indirect **observation** of what we want to learn.
2. **Observation** and **association** of ideas from the reality observed (with two main types of associations: geographical or spatial associations, and historical or temporary)
3. **Expression** of the **knowledge** acquired through drawings, crafts, games, songs, plays, writing.

2.6.4 John Dewey

John Dewey (October 20, 1859 – June 1, 1952) was an American philosopher, psychologist, and an educational reformer whose ideas have been influential in education and social reform.

Dewey is one of the leading figures associated with the philosophy of pragmatism and is considered one of the founders of functional psychology.

“Projects” method

As the Decroly method, this one also tries to globalize, but through the "problem solving".

In life there are no subjects, but problems to solve. Every problem that is presented to the student is a project, and this project is a series of activities aimed at solving a problem. When working on projects, we must ensure that there are no "gaps" in learning.

The following must be made:

1. Intent **or problem statement**.
2. **Preparation** and finding ways to solve it.

3. **Implementation** of selected media.

4. Final **assessment work**.

3. PRACTICAL FRAMEWORK

3.1 Survey model

SURVEY 1: PERSONALIZED EDUCATION

Mark your answer with an x

If you need to write any comments, write it on the back of this page

In this school...

- 1. Do the students decide the contents they want to learn?**
 YES NO
- 2. It is mainly worked by projects?**
 YES NO
- 3. Is the learning pace of each student respected? (In other words: Are teachers always aware that each student learns at a different rhythm?)**
 YES NO
- 4. Do the students have freedom and space to think and make exploration activities in the classroom?**
 YES NO
- 5. Does the schedule establish flexible time bands involving teachers from different areas of knowledge in the classroom at the same time accompanying the students' activities?**
 YES NO
- 6. Does the evaluation include elements of student self-assessment?**
 YES NO
- 7. Are the students helped to develop a self-learning guide that can show their own progress?**
 YES NO
- 8. Does the evaluation involve only the application of a traditional question-answer exam?**
 YES NO

- 9. Is the evaluation of students quarterly designed or does it consist of flexible periods that do not have the same duration?**
 QUARTERLY FLEXIBLE EVALUATION PERIODS
- 10. Is the participation of parents in educational activities in the classroom requested and/or facilitated?**
 YES NO
- 11. Is the participation of parents in the general functioning of the centre requested and/or facilitated?**
 YES NO
- 12. Does the centre organize school camps outside the school involving the coexistence of students?**
 YES, EVERY COURSE YES, EVERY TWO COURSES YES, AT THE END OF A STAGE NO
- 13. The student assignment to a course is made from its age (date of birth) or is there a more flexible grouping? (by cycles, capabilities, interests...)**
 BY AGE BY A FLEXIBLE GROUP
- 14. Has the education in values a central role in the formation of the students?**
 YES NO
- 15. Is the emotional intelligence of students dealt with?**
 YES NO
- 16. Is the purpose of your educational activity that students incorporate contents or the skills that will lead them to get those and other contents?**
 CONTENIDOS (CONTENTS) COMPETENCIAS (SKILLS) BOTH
- 17. Are oral presentations made by one or more students to the rest of the class encouraged?**
 YES NO
- 18. What number of oral presentations does the students at the end of the quarter?**
 0 1 MORE THAN 1
- 19. Are mistakes in the classroom ignored, treated as a negative result, or do they become positive and are they seen as a source for learning?**
 IGNORED NEGATIVE RESULT SOURCE FOR LEARNING

SURVEY 2: CREATIVITY AND ARTS IN EDUCATION

Mark your answer with an X

If you need to write any comments, write it on the back of this page

In this school...

- 1. Is the study of any curricular content done with a broad and interdisciplinary view so that different subjects are involved in the development of the learning of all contents or projects?**
 YES NO
- 2. Is the artistic learning considered in the schedule of the centre? (music, visual education, dance and drama) (Mark those who are regularly treated with an X)**
 MUSIC PLASTIC AND VISUAL EDUCATION DANCE DRAMA
- 3. How many hours a week are devoted to arts education?**
 1 SESSION A WEEK FOR EACH ONE MORE THAN 1 SESSION A WEEK FOR EACH ONE
- 4. Is there a special classroom or space for these areas?**
 YES NO
- 5. Is any theatrical performance carried out during the school year?**
 YES NO
- 6. Is production of original artistic performances encouraged? (designed and executed by the students themselves).**
 YES NO
- 7. Is any musical instrument taught?**
 YES NO
- 8. Do the sessions of physical education include dance and corporal expression learning?**
 YES NO
- 9. Are students required to perform artistic productions (music, art, dance or drama) reflecting recent learning?**
 YES NO
- 10. Do the students attend artistic activities during the year?**
 0 ONCE PER QUARTER ONCE A YEAR MORE THAN ONCE A YEAR

11. Are parents involved in artistic activities (musical performances, drama performances, exhibitions...) developed by themselves for students in school?

- YES NO

12. Have you ever thought about the possibility of devoting one day per quarter for students to use their creativity to plan and carry out creative activities planned by themselves?

- YES NO

13. Are relaxation sessions conducted?

- 0 ONCE A WEEK MORE THAN ONCE A WEEK

14. Is there any systematic and specific programme to enhance the creativity of the students?

- YES NO

3.2 Recount of the survey's results

SURVEY 1: PERSONALIZED EDUCATION (BARCELONA)

TOTAL NUMBER OF SURVEYS: 6

Table 1

Questions	YES	NO	SOMETIMES
1.Do students choose the contents they want to learn?	2	2	2
2.Work based on projects	6		
3.Respect of the different learning rhythms	6		
4.Space to think and explore in the classroom	5		1
5.Flexible time bands with the participation of more than one teacher from a different area of knowledge	4	2	
6.Self-appraisal	6		
7.Development of a self-learning guide	4	2	
8.Only a traditional test for the evaluation		6	
10.Facilitation of participation of parents in educational activities in the classroom	5	1	
11.Facilitation of participation of parents in the general functioning of the centre	5		1
14.Education in values as a central role in the education	6		
15. Working on emotional intelligence	6		
17.Promotion of oral presentations made by the students	6		

Questions	QUARTERLY	FLEXIBLE EVALUATION PERIODS	BOTH
9. How is the evolution designed?	2	2	2

Questions	EVERY COURSE	EVERY TWO COURSES	AT THE END OF A STAGE	NO
12.School camps	4	1	1	

Questions	BY AGE	BY A GROUP	FLEXIBLE	BOTH
13.The students' assignment to a course	4	2		

Questions	QUARTERLY	FLEXIBLE EVALUATION PERIODS	BOTH
9.How is the evolution designed?	14	4	2

Questions	CONTENTS	SKILLS	BOTH
16. Contents of skills?		4	2

Questions	0	1	MORE THAN 1
18.Number of oral presentations at the end of the quarter			6

Questions	IGNORED	NEGATIVE RESULT	RESOURCE FOR LEARNING
19.Treatment of errors			6

SURVEY 1: PERSONALIZED EDUCATION (SANT BOI DE LLOBREGAT)

TOTAL NUMBER OF SURVEYS: 20

Table 2

Questions	YES	NO	SOMETIMES
1.Do students choose the contents they want to learn?		14	6
2.Work based on projects	3	14	3
3.Respect of the different learning rhythms	19	1	
4.Space to think and explore in the classroom	12	6	2
5.Flexible time bands with the participation of more than one teacher from a different area of knowledge	12	8	
6.Self-appraisal	11	9	
7.Development of a self-learning guide	16	4	
8.Only a traditional test for the evaluation	1	19	
10.Facilitation of participation of parents in educational activities in the classroom	13	6	1
11.Facilitation of participation of parents in the general functioning of the centre	18	1	1

14. Education in values as a central role in the education	20		
15. Working on emotional intelligence	16	3	1
17. Promotion of oral presentations made by the students	19		1

Questions	EVERY COURSE	EVERY TWO COURSES	AT THE END OF A STAGE	NO
12. School camps	10	4	3	3

Questions	BY AGE	BY A GROUP	FLEXIBLE	BOTH
13. The student assignment to a course	17	2		1

Questions	CONTENTS	SKILLS	BOTH
16. Contents or skills?	1	15	4

Questions	0	1	MORE THAN ONE
18. Number of oral presentations at the end of the quarter	1	8	11

Questions	IGNORED	NEGATIVE RESULT	RESOURCE FOR LEARNING
19. Treatment of errors	2	0	18

SURVEY 2: CREATIVITY AND ART (BARCELONA)

TOTAL NUMBER OF SURVEYS: 6

Table 3

Questions	YES	NO
1. Interdisciplinary study	6	
4. Special classrooms for artistic areas	6	
5. Theatrical performances	6	
6. Original artistic performances	5	1
7. Teaching of musical instruments	5	1
8. Dance and corporal expression in physical education	5	1
9. Artistic productions that reflect recent learning	5	1
11. Parents' participation in artistic activities	3	3
12. Special day for creative ideas and activities	4	2
14. Systematic and specific programme to promote creativity	4	2
Questions	ONE SESSION A WEEK	MORE THAN ONE SESSION A WEEK
3. Hours dedicated to artistic lessons	3	3

Questions	MUSIC	PLASTIC AND VISUAL EDUCATION	DANCE	DRAMA
2. Artistic learning	6	6	6	6

Questions	ONCE QUARTER PER	ONCE A YEAR	MORE THAN ONCE A YEAR
10. Assistance with artistic activities	3	0	3

Questions	ZERO - NAUGHT	ONCE A WEEK	MORE THAN ONCE A WEEK
13. Relax sessions	2	2	2

SURVEY: CREATIVITY AND ART (SANT BOI DE LLOBREGAT)

TOTAL NUMBER OF SURVEYS: 20

Table 4

Questions	YES	NO
1. Interdisciplinary study	16	4
4. Special classrooms for artistic areas	18	2
5. Theatrical performances	19	1
6. Original artistic performances	12	8
7. Teaching of musical instruments	19	1
8. Dance and corporal expression in physical education	15	5
9. Artistic productions that reflect recent learning	17	3
11. Parents' participation in artistic activities	8	12
12. Special day for creative ideas and activities	4	16
14. Systematic and specific programme to promote creativity	6	14

Questions	ONE SESSION A WEEK	MORE THAN ONE SESSION A WEEK
3. Hours dedicated to artistic lessons	8	14

Questions	MUSIC	PLASTIC AND VISUAL EDUCATION	DANCE	DRAMA
2. Artistic learning	20	20	10	10

Questions	ONCE QUARTER PER	ONCE A YEAR	MORE THAN ONCE A YEAR
10. Assistance to artistic activities	6	5	9

Questions	ZERO - NAUGHT	ONCE A WEEK	MORE THAN ONCE A WEEK
13. Relax sessions	5	9	6

3.3 Tables

Of all the questions in the surveys, I have made a selection of those that I believe to be the most representative for valuing whether a school made a personalized education, in the case of the first survey (personalized education), and the for the second, (creativity and art) to see if it meets the proposed creative school model. Of the nineteen regarding personalized education, only thirteen have been selected, and of the fourteen related to creativity and art, I have selected thirteen too.

For that, a weighed score is given in such a way that a “one” has been given to all positive responses, which follow the established criteria, and “zero” to the negative ones, the absence of specific criteria. It should be pointed out that in some questions, fractions of a point (0'25, 0'5, 0'75) could be obtained depending on the setting the ordering criteria, for example strict compliance with those that are imposed by the curriculum, music and plastic education, only get 0'5, in contrast, schools that in addition to the imposed subjects include other artistic learnings, like dance and theatre, obtained the maximum score which is one.

SURVEYS ABOUT PERSONALIZED EDUCATION

Table 5

Questions	Answers	Score
1. Interdisciplinary study	Yes	1
2. Artistic learning	Yes	1
3. Hours dedicated to artistic lessons	More than one	1
4. Special classrooms for artistic areas	Yes	1
5. Theatrical performances	Yes	1
6. Original artistic performances	Yes	1
7. Teaching of musical instruments	Yes	1
8. Dance and corporal expression in physical education	Yes	1
9. Artistic productions reflecting recent learning	Yes	1
10. Assistance to artistic lessons	Once per quarter	1
11. Parents' participation in artistic activities	Yes	1
12. Special day for creative ideas and activities	Yes	1
14. Systematic and specific programme to promote creativity	Yes	1
Total score of the answers		13

SURVEYS ABOUT CREATIVITY AND ARTS

Table 6

Questions	Answers	Score
1.Do students choose the contents they want to learn ?	Yes	1
3.Respect of the different learning rhythms	Yes	1
4.Space to think and explore in the classroom	Yes	1
5.Flexible time bands with the participation of more than one teacher from a different area of knowledge	Yes	1
6.Self-appraisal	Yes	1
7.Development of a self-learning guide	Yes	1
8.Only a traditional test for the evaluation	No	1
9. How is the evaluation designed	Flexible periods	1
13.The students' assignment to a course	Flexible group	1
14.Education in values as a central role in the education	Yes	1
15. Working on emotional intelligence	Yes	1
17.Promotion of oral presentations made by the students	Yes	1
19.Treatment of errors	Source for learning	1
Total score of the answers		13

Applying what is established in the tables above, the following results were obtained:

SURVEYS ABOUT PERSONALIZED EDUCATION

Table 7

SCHOOLS IN BARCELONA	SCORE
Escola Dels Encants	12
Escola Projecte	11,5
Escola Virolai	11
Escola Progrés	11
Escola Del Mar	10
Escola Provençals	8,5
SCHOOLS IN SANT BOI	SCORE
Escola Sant Josep	12
Escola Montbaig	11,5
Escola Josep Maria Ciurana	11
Escola Vicente Ferrer	10,5
Escola Antoni Gaudí	10
Col·legi Joan Bardina	10
Col·legi Molí Nou	10
Escola Salesiana Mare de Déu dels Dolors	10
Escola Barrufet	9
Pedagogium Cos	9
Fundació Llor	9
Escola Marianao	9
Escola Can Massallera	9
Escola Parellada	9
Escola Amat Verdú	8
Escola Antoni Tapies	8
Escola Ciutat Cooperativa	7
Escola Rafael Casanova	7
Escola Vedruna	6
Escola Maria Fernández Lara	4

Table 8

SCORE BARCELONA SCHOOLS	NUMBER OF SCHOOLS
12	1
11,5	1
11	2
10	1
8,5	1

Table 9

SCORE SANT BOI SCHOOLS	NUMBER OF SCHOOLS
12	1
11,5	1
11	1
10,5	1
10	4
9	6
8	2
7	2
6	1
4	1

STATISTICAL PARAMETERS		
	BARCELONA	SANT BOI
MEAN	10,66	8,95
MEDIAN	11	9
MODE	11	9
RANGE	3,5	8

SURVEYS ABOUT CREATIVITY AND ARTS

Table 10

SCHOOLS IN BARCELONA	SCORE
Escola Virolai	13
Escola Dels Encants	12
Escola Del Mar	11,5
Escola Projecte	10,5
Escola Progrés	10
Escola Provençals	7,25
SCHOOLS IN SANT BOI	SCORE
Escola Amat Verdú	11
Escola Antoni Gaudi	10,5
Escola Ciutat Cooperativa	10,25
Escola Can Massallera	10
Escola Salesiana Mare de Déu dels Dolors	10
Escola Barrufet	9,5
Escola Parellada	9,25
Escola Montbaig	9
Escola Sant Josep	9
Escola Vedruna	9
Escola Antoni Tapies	8
Escola Rafael Casanova	8
Escola Josep Maria Ciurana	7,75
Escola Maria Fernández Lara	7,75
Escola Marianao	7,5
Escola Vicente Ferrer	7,5
Col·legi Joan Bardina	7,25
Fundació Llor	7,25
Col·legi Molí Nou	7
Pedagogium Cos	6,75

Table 11

SCORE BARCELONA SCHOOLS	NUMBER OF SCHOOLS
13	1
12	1
11,5	1
10,5	1
10	1
7,25	1
Total	6

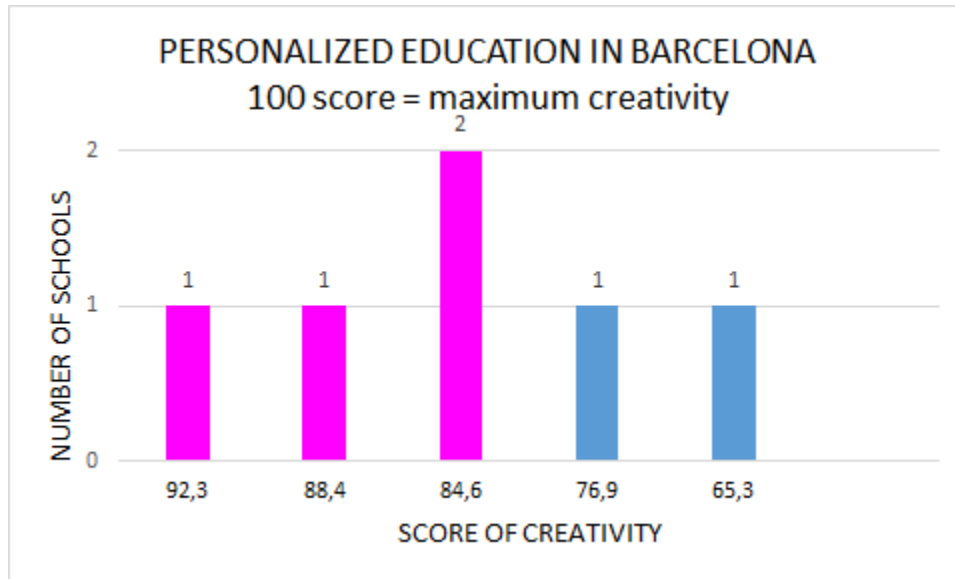
Table 12

SCORE SANT BOI SCHOOLS	NUMBER OF SCHOOLS
11	1
10,5	1
10,25	1
10	2
9,5	1
9,25	1
9	3
8	2
7,75	2
7,5	2
7,25	2
7	1
6,75	1
Total	20

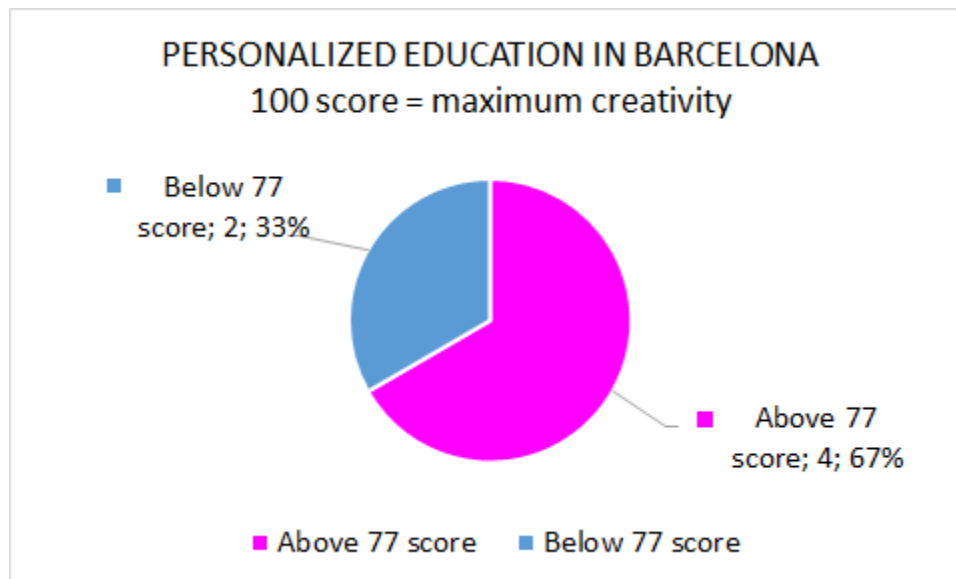
STATISTICAL PARAMETERS		
	BARCELONA	SANT BOI
MEAN	10,70	8,21
MEDIAN	11	8,5
MODE	-	9
RANGE	5,75	4,5

3.4 Graphics and conclusions

PERSONALIZED EDUCATION IN BARCELONA



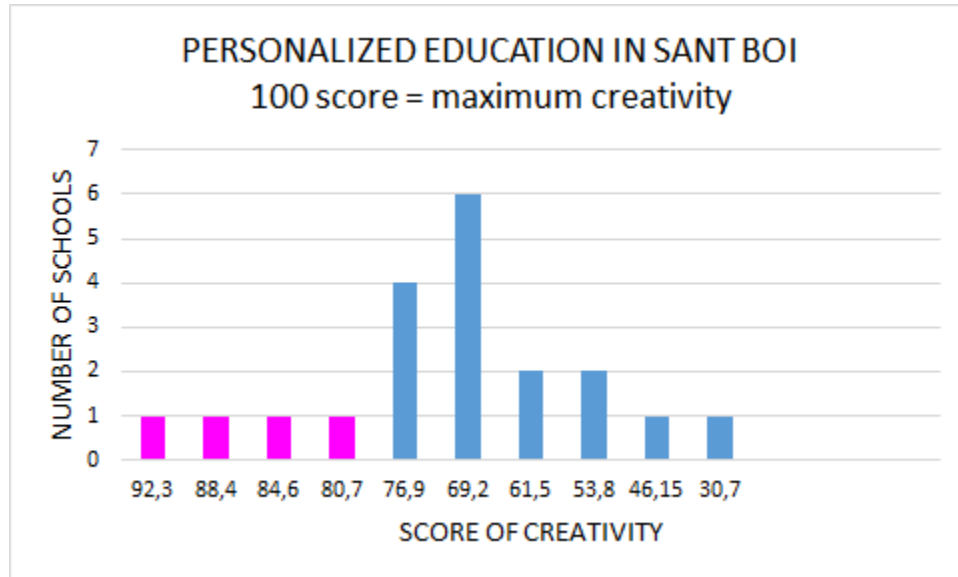
92,3	88,4	84,6	76,9	65,3
1	1	2	1	1



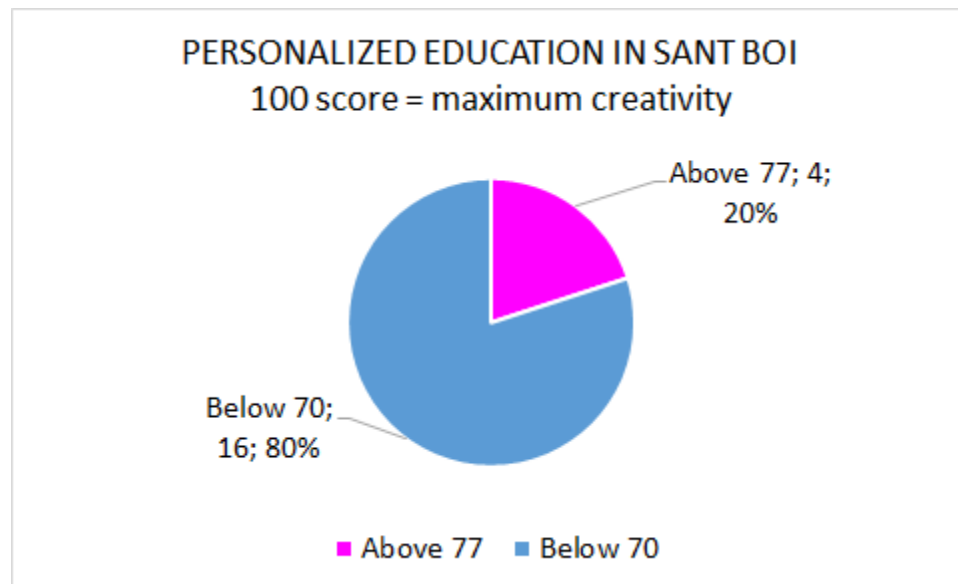
Above 77 score	Below 77 score
4	2

61

PERSONALIZED EDUCATION IN SANT BOI

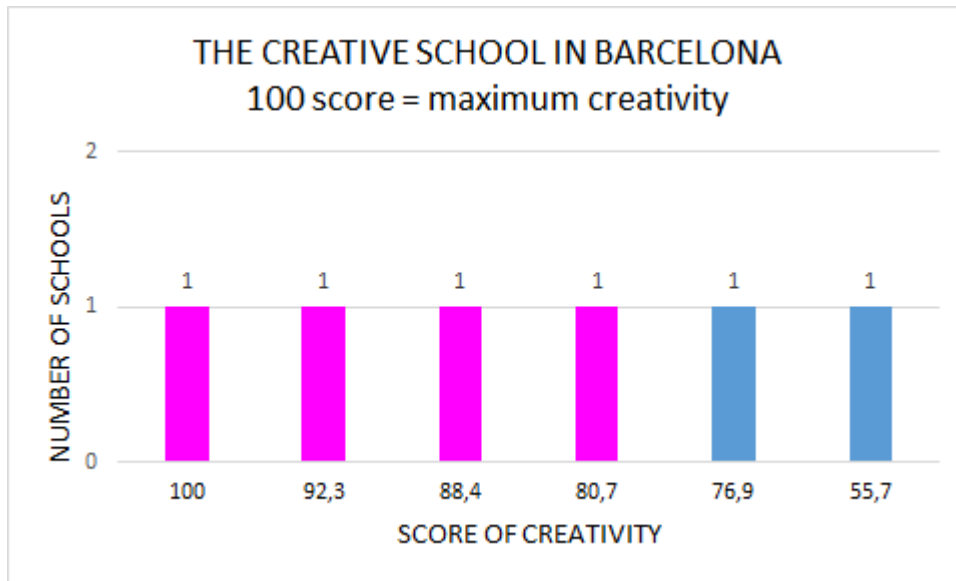


92,3	88,4	84,6	80,7	76,9	69,2	61,5	53,8	46,15	30,7
1	1	1	1	4	6	2	2	1	1

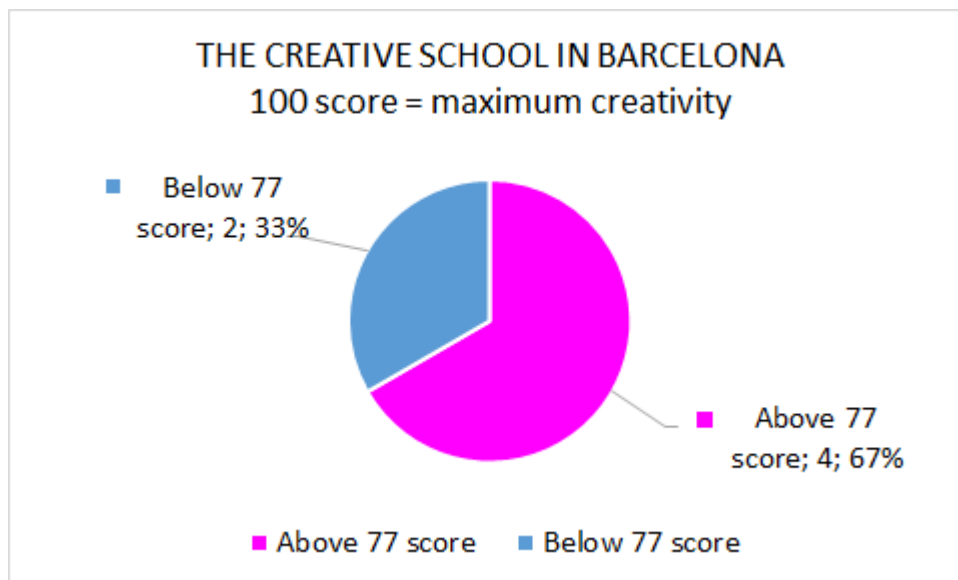


Above 77	Below 70
4	16

CREATIVITY AND ARTS BARCELONA

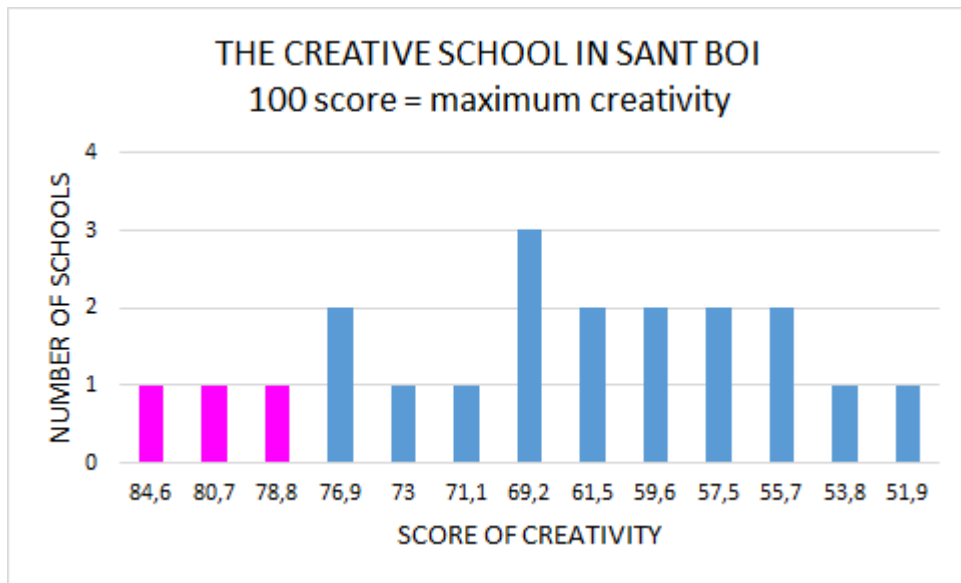


100	92,3	88,4	80,7	76,9	55,7
1	1	1	1	1	1

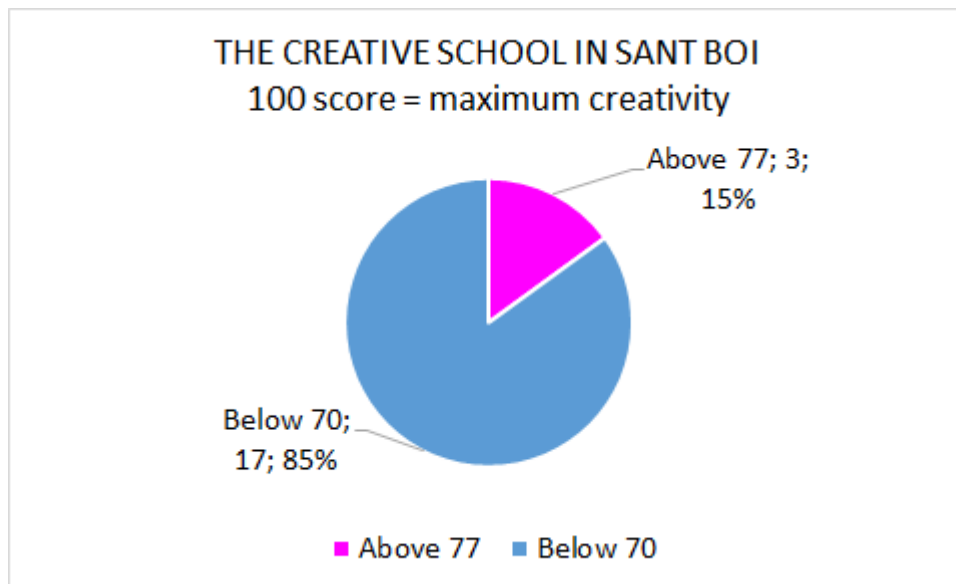


Above 77 score	Below 77 score
4	2

CREATIVITY AND ARTS SANT BOI



80,7	78,8	76,9	73	71,1	69,2	61,5	59,6	57,5	55,7	53,8	51,9
1	1	2	1	1	3	2	2	2	2	1	1



Above 77	Below 70
3	17

Analysis of personalized education graphics in Barcelona:

You can see that 4 out of 6 schools (66%) are above 77% in compliance with the criteria of a personalized education. Only 2 out of 6; that is to say, one third (33%) of the total number of schools does not provide a highly personalized education. If we consider the value of 76.9% rounded to 77%, we can add one more school which provides personalized education. So the global figures go to show that 5 from 6 schools (83.33%) provide a personalized education. As a conclusion we can say that the majority of the schools in the sample taken from the schools of Barcelona offer considerable individualized education. Most are rather grouped in the high section.

Analysis of personalized education graphics in Sant Boi de Llobregat:

You can see that 16 from 20 schools (80%) are below the 77% in compliance with the criteria of individualized education. Only 4 out of 20; that is to say, one fifth of those schools (20%) grants an individualized education; they are above the 77% score in fulfillment of a personalized education. For each school that provides a personalized education there are 4 who do not. If we consider the rounding of 76.9% to 77% in compliance with the criteria of customization; then we join 4 more schools which provide personalized education, resulting in a total of 8 schools out of 20 (40%) in provision of individualized education. In any case, we would not even reach the 50% of schools to provide individualized education in Sant Boi de Llobregat. Barcelona provides virtually between the quadruple and double the personalized education, between 4 times more and twice more than the supplied in Sant Boi de Llobregat.

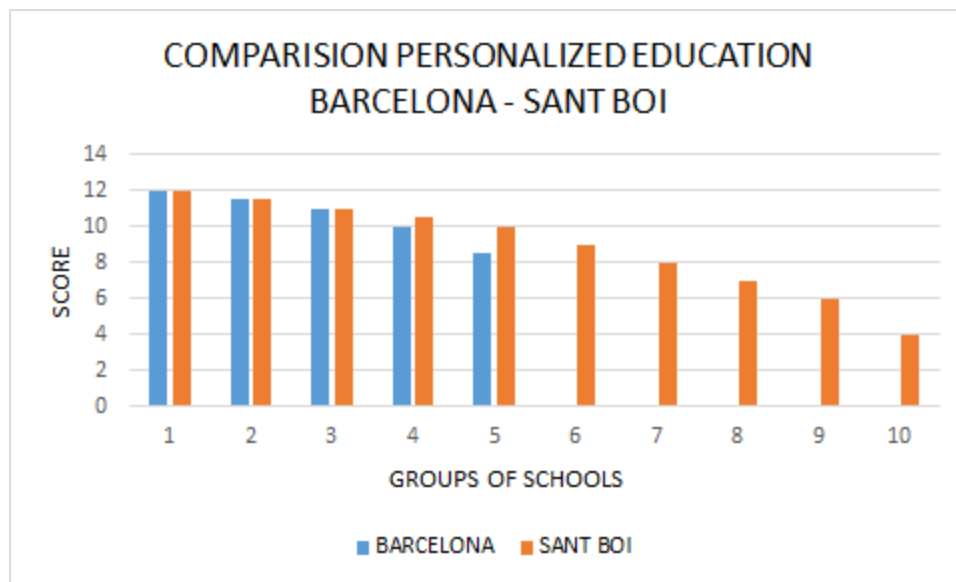
Analysis of creative and artistic education in Barcelona education graphics:

It is observed that 4 of 6 schools, 66%, are above the 77% score at providing a creative education. That is to say, for each school that did not, there would be two (double) that provide this creative education. If we round up the rating of 76.9% to 77%, then the number of schools that supply creative education changes from of 4-6 (66%) to 5 out of 6 (the 83.3%). We can conclude that these schools have a high percentage of creative and artistic education, and a high degree of efficiency in the criteria score that defines the school that would be creative. We can take note, even the presence of a school which meets 100% in compliance with the criteria that would define a creative education. Thus, we can see a high degree of presence of creative schools in the sample.

Analysis of creative and artistic education in Sant Boi de Llobregat graphics:

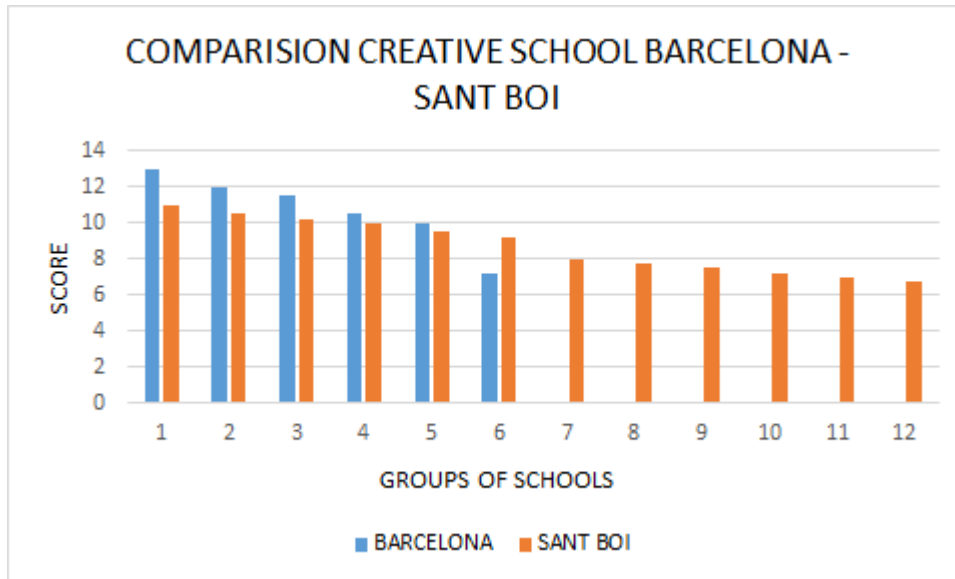
There are 3 schools (15%) of a total of 20, scoring above 77% in compliance with criteria for creative education; the rest, 17 schools (85%) of a total of 20, do not reach a score of 77% on creative education criteria. If we round up the criteria rating of 76.9% to 77%, then we would have 4 schools over 20 (20%) with a creative education. Seen in another way, for each school that provides it there are four more than those schools that do not. In any case, we observe that in the best of the considered results, 80% of the schools in Sant Boi are not a creative school, and that in the worst cases, 85% are not. Therefore, there would be a lot to do in Sant Boi to improve the provision of a more creative school.

COMPARISION PERSONALIZED EDUCATION BARCELONA – SANT BOI



BARCELONA	SANT BOI
12	12
11,5	11,5
11	11
10	10,5
8,5	10
	9
	8
	7
	6
	4

COMPARISION CREATIVE SCHOOL BARCELONA – SANT BOI



BARCELONA	SANT BOI
13	11
12	10,5
11,5	10,25
10,5	10
10	9,5
7,25	9,25
	8
	7,75
	7,5
	7,25
	7
	6,75

4. FINAL CONCLUSIONS AND REFLECTION

4.1 Conclusions

About personalized education:

Between 66% (4 of 6) and 83% (5 of 6) of the selected schools in Barcelona are providing personalized education. Thus, schools we have selected from Barcelona obtain an average of the percentages near 70% that offer personalized education.

Only 20% of schools in Sant Boi (4 of 20 schools) are providing a personalized education; even including an expanded margin to add some other schools, we will only reach at 40% (8 schools of about 20) that grant a personalized education.

Moreover in Sant Boi, averaging the percentages, we would obtain only 30% of the schools that provide a personalized education.

Surprisingly, we can see a reverse percentage between Sant Boi and Barcelona: a percentage of 70% that provide personalized education in the schools of Barcelona, in contrast with 70% of no individualized education at schools in Sant Boi.

We can conclude that Sant Boi's schools should significantly increase a personalized education, since they do not even reach half the number of schools which have obtained the criteria for being labelled as a school which provides personalized education.

About creative schools:

Considering the creative profile of the schools, we can see that the percentage moves between 66% (4 of 6) and 83% (5 of 6). If we take the average percentages, we could say that about 70% of schools that have being investigated in the city of Barcelona (schools that we could suppose met with the criteria to provide a creative and artistic education) could be labelled as creative schools.

Among the schools of Sant Boi, we can observe that 15% (3 of 20 schools) provide a creative and artistic education, while 85% (17 of 20 schools) do not provide a creative and artistic education.

Even taking the improved data of Sant Boi into account, we obtain 20% (4 of 20 schools) qualified as creative schools. In other words, for each creative school you can find in Sant Boi, you can encounter 4 schools that are not.

That is, in Sant Boi there is much room for improvement in order to provide an education in which the arts and creativity would be valued.

4.2 Observations on the surveys

- Many of the schools that have marked all artistic disciplines (music, plastic education, dance and theatre) in survey 2, creativity and art in school, is because they deal with them within the physical education area. Both music and plastic education are imposed by the curriculum, the school must devote certain hours to them, and they are considered as one more subject. On the other hand, dance and theatre do not have the category of “area”, and so, sometimes, they are included in other subjects.
- Regarding the participation of parents in artistic activities at school, I have to point out that most schools of Sant Boi answered no. Conversely, the same question in schools identified as a pattern, in Barcelona, is answered with a yes. In addition, the interviews to their directors, confirm the data, since all said that parents are much involved in all school activities, also in the artistic, and highlighted to me that many of them worked in the artistic world.
- Regardless of that I find two creative school that stand out within the group in Barcelona, I have to say that all of them, except *“L’Escola Provençals”*, which deviates entirely from the pattern, are in the high section of the compliance with the criteria of creative and artistic school, to the point that at one of them, the director explained to me that for this school year they had dispensed with a tutor to instead have a specialist in plastic education.
- After the surveys I find that between the schools chosen to obtain a pattern of creative school, there are two who stand out above the rest. School *“Virolai”* and *“L’Escola dels Encants”*. School *“Virolai”* gets an 11 score in personalized school, and *“L’Escola dels Encants”*, obtains a 12. On the other hand, *“L’Escola dels Encants”* gets a 12 in creativity, and school *“Virolai”* obtains a 13, the highest score. This difference of a point occurs because in *“L’Escola dels Encants”* they do not practice any musical instrument, although in the interview with Pilar Grau, a teacher

of the school, showed me that they are in the process. Still, I found it the most innovative, because of the way of grouping students, the distribution of school into learning environments and the presence of a singular furniture design, adapted to the needs of students, among other things, as you can see in the photos that are attached in the annex.

- Of the 12 schools in Barcelona, referred to in the annex, which I called, send an email and went personally to deliver surveys, I only received response of 6. In Sant Boi, of the 21 schools, all in the city, I received a reply from 20. The only school that did not want to reply to my questions, saying the director that "I did not want to answer the questions because we do not give that kind of information", was the school Santo Tomás.

4.3 Final reflection

When we ask: "Is there a school in Sant Boi or Barcelona that promotes a personalized education (adjusted to the demands and peculiarities of the student, and that is promoting the maximum development of their potential) and which also offers a creative and artistic education for fostering the development of the students' creativity? I have to answer no.

I only found two schools in Barcelona, among my selected schools, who sufficiently reach the criteria to be labelled as creative schools; they are "*l'Escola dels Encants*" and "*l'Escola 'Virolai'*".

We see that it is difficult to catalogue and / or find schools that meet the double condition of creative schools and schools with a high degree of individualization or customization in education. It is easier to find schools that are providing a "personalized education" than schools we can consider "creative". It's also difficult to find schools that work with creativity as a concept of generating activities, methodologies, new school organizations and new ways of teaching. Even more difficult is it to find schools that meet both criteria (personalization, and more creativity and artistic components) in any case, it is possible you may get it (a couple of schools claim to have this status).

To summarize, the reflections that have been discussed in this conclusion, the information provided, that have been tested, the opinions that have been expressed, the pros and cons which have been confronted or which may result confronted by this presentation, make up a picture with lights and shadows, with different perspectives, with different approaches to the issues raised, in short, they are subjects or issues that are part of the real education.

Education is a complex act, like a person is. Any approach to education must flee the reductionism and simplifications. However, any attempt to address the education of an individual, and valuing their individuality, their uniqueness, and having at the same time? the intention of promoting all their creative potential, even those abilities that may be ignored by themselves, it's sure that it goes on in the right direction ; in the right direction to support the development of happy and healthy people, positive people, open- minded people, flexible and responsible people, proactive, and ultimately, responsible citizens.

Nothing could be much more desirable than this as ultimate goal of any educational process.

After doing this study, responding to my hypothesis, and reaching my objectives, I have noticed that most of the schools are aware of the importance of artistic activities and the little weight they actually have in the curriculum, as well as the importance of creativity, now more than ever, in this changing society full of uncertainty.

I have to say, that although there is still a long way to go in this area, many things are moving around it. Little by little, you can see some examples in the annex, different projects aimed at giving value to the artistic areas and empowering creativity are being introduced into the world of teaching. There is no doubt that, as Ken Robinson says: *"the fact is that given the challenges we face, education does not need to be reformed - it needs to be transformed"*, a transformation of the education system is required. We cannot teach today, in the 21st century, with a teaching model of the 19th century.

With the globalization and the emergence of social networks, among other phenomena, the function of the educational system, not only has to focus on the transmission of knowledge, but has to accompany infants and adolescents at their global learning process to make the students take over the reins of their education and discover both their goals and the innate or acquired abilities (aptitudes) which will take them to achieve these goals. With the emergence of machines that are taking over some work that until now was done by humans, and that means a loss of jobs, we have to do what we know best to do, be more human, and develop all what machines still do not control: intuition, creativity, empathy, collaboration, art, and the connection of all our knowledge.

"I believe our only hope for the future is to adopt a new conception of human ecology, one in which we start to reconstitute our concept of the richness in human capacity." — Ken Robinson

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6. GLOSSARY: Concepts and definitions

ABILITY (It derives from the Latin "habilitas" - "aptitude" - noun of quality from "habilis" - "easy to manage, handy")

·The power, knowledge to do something – *Cambridge Dictionary*

ACADEMIC (It comes from the Latin word "academicus "of the Academy," from "academia")

·Belonging or relating to a place of learning, a college, university, or academy of purely theoretical or speculative interest – *Collins Dictionary*

·Excessively concerned with intellectual matters and lacking experience of practical affairs – *Collins Dictionary*

·Having an aptitude for study – *Collins Dictionary*

·Conforming to set rules and traditions; conventional – *Collins Dictionary*

·Relating to studies such as languages, philosophy, and pure science, rather than applied, technical, or professional studies – *Collins Dictionary*

·Good at studying (adjective) – *Cambridge Dictionary*

ANALOGY (It comes from the Greek "Ana" - "between")

·Relationship between one thing and another. – *Cambridge Dictionary*

·It means comparison or relation between several reasons or concepts; compare or relate two or more objects or experiences, appreciating and noting general characteristics, generating reasoning and conducts based on the existence of similarities between them. – *Pedagogic Dictionary*

ART (It comes from the Latin word "artem"(nominative "ars") and from the Greek word "arti")

·The creation of works of beauty or other special significance – *Collins Dictionary*

·The exercise of human skill (as distinguished from nature) – *Collins Dictionary*

·Imaginative skill as applied to representations of the natural world or figments of the imagination – *Collins Dictionary*

·The products of man's creative activities; works of art collectively, esp of the visual arts, sometimes also music, drama, dance, and literature – *Collins Dictionary*

·Any of various creative forms of expression – *Cambridge Dictionary*

ASSIMILATION *(It comes from the Latin "assimilatio" - "likeness, similarity," noun of action from past participle stem of "assimilare")*

·Understanding what is learned and incorporation of new knowledge to those already possessed. – *Pedagogic Dictionary*

ATTENTION *(It derives from Latin "attentionem" - "attention, attentiveness," noun of action from past participle stem of "attendere" - "mental heeding")*

·Is the quality of perception of environmental stimuli and the capacity to give to the most relevant ones priority for further processing. – *Pedagogic Dictionary*

AUTODIDACT *(It comes from Greek "autodidaktos" - "self-taught")*

·Anyone agency on their own make the learning of new knowledge. – *Pedagogic Dictionary*

COGNITIVE *(It derives from Latin "cognit", past participle stem of "cognoscere")*

·Connected with, thinking or conscious mental processes – *Cambridge Dictionary*

COGNITIVE ACTIVITY

(Cognitive: It derives from Latin "cognit - past participle stem of "cognoscere")

(Activity: From Latin "activus" - "state of being active, briskness, liveliness")

·The process by which human beings structure knowledge using the mechanisms of the mind. – *Pedagogic Dictionary*

CONSCIOUS ASSIMILATION

(Conscious: From Latin "conscius" - "knowing, aware," from "conscire")

(Assimilation: From the Latin "assimilatio" - "likeness, similarity," noun of action from past participle stem of "assimilare")

·Essential condition for learning. The teacher must ensure that students not only remember what he said, but think about what to do. (The organization and conduct of the teaching process are indispensable). – *Pedagogic Dictionary*

“Creativity is intelligence having fun”

CREATIVITY *(It derives from the word “create” which comes from Latin “creatus”, past participle of creare "to make, bring forth, produce, beget," related to crescere "arise, grow")*

- The ability to create or invent – *Ken Robinson*
- The ability to produce original and unusual ideas, or to make something new or imaginative – *Cambridge Dictionary*

CURRICULAR ADAPTATION

(Curricular: From Latin “curriculum”)

(Adaptation: From Late Latin “adaptatio” - noun of action from past participle stem of “adaptare” - "condition of being adapted")

- Changes made in the curriculum (objectives, contents, methodology, evaluation) in order to adapt to the characteristics and peculiarities of the subjects. – *Pedagogic Dictionary*

CURRICULUM *(From Latin curriculum – a “running, course, career”)*

- It refers to the set of core competencies, objectives, methodological contents and evaluation criteria that students must achieve a certain level of education.

(In general, the curriculum answers questions what to teach?, how to teach?, when to teach?, what, how and when to evaluate?) – Pedagogic Dictionary

DANCE *(It comes from the Old French word “dancier”, which is of unknown origin, perhaps from Low Frankish “dintjan”)*

- A series of rhythmic steps and movements, usually in time to music – *Collins Dictionary*
- To move in time to music by making a series of rhythmic steps – *Cambridge Dictionary*

DEVELOPMENT *(“Bringing out the latent possibilities”)*

- Transformation of a quality that helps to improve an individual, whether mental or social. – *Pedagogic Dictionary*

DIDACTICS *(It derives from the Greek “didaktikè” -"teaching")*

- It is the art of passing on knowledge in the most appropriate form for assimilation – *Pedagogic Dictionary*

DIDACTIC RESOURCES

(Didactic: from Greek "didaktikos")

(Resource: from Latin "resurgere" - "rise again")

·Anyone material medium (projector, book, text, video) or conceptual (example, simulation) used as a support in teaching in order to facilitate or stimulate learning. – *Pedagogic Dictionary*

EDUCATION *(It derives from the Latin "educare" - "guide, lead, instruction")*

·Organized programs of learning – *Ken Robinson*

·Education is a process through which people develop their physical and intellectual capacities. – *Pedagogic Dictionary*

EDUCATIONAL PROGRAM

(Education: It derives from the Latin "educare" - "guide, lead, instruction")

(Program: From Late Latin "programma" - "proclamation, edict," and from Greek "programma" - "a written public notice")

·Curricular instrument that determines the teaching-learning activities that must be done in the school, allowing teachers to guide their practice with regard to the objectives to achieve, organize the behaviours that students must demonstrate, activities and content to develop as well as strategics and resources employed for this purpose. – *Pedagogic Dictionary*

IMITATIVE ATTITUDE

(Imitative: Probably from "imitate" + -ive; from Late Latin "imitativus")

(Attitude: It derives from the Late Latin "aptitudinem" (nominative aptitudo; see aptitude)

·Intention and willingness to act similarly to another person, whose ways of thinking and acting are copied. - *Renny Yagosesky, writer*

INDUCTION *(the Latin inductio)*

·Consists of obtaining general conclusions from premises that contain particular data. – *Pedagogic Dictionary*

INTELLIGENCE *(It derives from the Latin word "intelligentia", "understanding, power of discerning; art, skill, taste,")*

·The capacity for understanding; ability to perceive and comprehend meaning – *Collins Dictionary*

·Good mental capacity – *Collins Dictionary*

·Clever and quick at understanding – *Cambridge Dictionary*

·Intelligence is a general capacity of an individual consciously to adjust his thinking to new requirements: it is general mental adaptability to new problems and conditions of life. - *Stern, "The Psychological Methods of Testing Intelligence," 1914.*

INTELLIGENT QUOTIENT (IQ) (*Abbreviation of "intelligence quotient", a 1921 translation of German "Intelligenz-quotient", coined in 1912 by German psychologist William L. Stern*)

·A measure of a person's intelligence as indicated by an intelligence test; the ratio of a person's mental age to their chronological age (multiplied by 100).

LEARNING (*It comes from the Proto-Germanic word "liznojan"*)

·The process of acquiring new knowledge and skills – *Ken Robinson*

MEANINGFUL LEARNING – SIGNIFICANT LEARNING

(*Significant: "having a meaning," from Latin "significans", present participle of "significare" - "make known, indicate"*)

(*Learning: It comes from the Proto-Germanic word "liznojan"*)

·The human being is willing to learn only that truth-of what it is meaning or logic. Human beings tend to reject that what does not make sense. Authentic learning is meaningful learning, learning meaningful. All other learning is purely mechanical, rote, cyclical: learning to pass an examination. Meaningful learning is a relational learning. The direction is given by the relationship of new knowledge with: previous knowledge, everyday situations, with experience, with real situations... – *John E. León*

·It is that when acquired by the students relate their prior knowledge with new acquired. – *Pedagogic Dictionary*

MEMORY (*It derives directly from the Latin "memoria" - "memory, remembrance, faculty of remembering", and from the Greek "merimna" - "care, thought"*)

·Ability to store, retain and recall information. – *Cambridge Dictionary*

METHOD *(It comes from the Greek words “Metha” -beyond, and “odos” -path)*

·It is a process to achieve objectives and literally means path, or way to go further –*Collins Dictionary*

·An orderly or fixed series of actions for doing something – *Cambridge Dictionary*

METHODOLOGY *(It comes from the Greek words “meta” -"beyond" and “logos” -"study")*

·It is the part of the logic that studies the methods of knowledge – *Collins Dictionary*

·The methods and principles that you use to carry out a particular activity or when studying a particular subject – *Cambridge Dictionary*

MUSIC *(It derives directly from the Latin word “musica”“the art of music,”and from Greek “mousike”)*

·An art form consisting of sequences of sounds in time, esp tones of definite pitch organized melodically, harmonically, rhythmically and according to tone colour – *Collins Dictionary*

·The art of arranging and combining sounds able to be produced by the human voice or by instruments – *Cambridge Dictionary*

PEDAGOGUE *(It derives from the Latin word “paedagogus,” from Greek “paidagogos - "slave who escorts boys to school and generally supervises them”, from “pais” - "child" and “agogos” - "leader")*

·A teacher or educator – *Collins Dictionary*

PEDAGOGY *(It comes from the Latin word “paedagogi”, and from the Greek word “paidagogia”, from “paidagogos” “teacher”)*

The word **PEDAGOGY** comes from the ancient Greek (*παιδίον* 'child' and *ἀγωγός* 'guide, driver')

It was the slave who brought the children to school.

·The principles, practice, or profession of teaching – *Collins Dictionary*

·The study of the methods and activities of teaching– *Cambridge Dictionary*

·The science that deals with education and teaching – *Pedagogic Dictionary*

PERCEPTION *(It comes from the Latin *perceptio*)*

- It is the action and effect of capturing things correctly. – *Pedagogic Dictionary*
- We use our senses and the brain's process to identify and classify it in relation to experience. – *Pedagogic Dictionary*

PSYCHOPEDAGOGY *("Study of the soul," from Modern Latin "psychologia", and from the Greek "psykhe"- "breath, spirit, soul" and "logia" - "study of")*

- The Psycho-pedagogy is an established discipline, which applies psychological and pedagogical knowledge to education. – *Pedagogic Dictionary*

SCHOOL *(It derives from the Latin word "schola", "intermission of work, leisure for learning, debate, lecture, meeting place for teachers and students, place of instruction," and from the Greek "skhole" - "spare time, leisure, rest ease")*

- Any community of people that comes together to learn with each other – *Ken Robinson*

SCHOOL FAILURE

(School: From the Latin word "schola", "intermission of work, leisure for learning, debate, lecture, meeting place for teachers and students, place of instruction," and from the Greek "skhole" - "spare time, leisure, rest ease")

(Failure: From Anglo-French "failer", Old French "falir" - "be lacking; not succeed")

- Negative gap between actual ability of a student and school performance valued academically. (This term has to do with the expectation you have from the point of view of the curriculum. It is defined as school failure when these default expectations do not coincide, they do not consider the fact that there are different people with different abilities, different potential and different talents) – *Pedagogic Dictionary*

SELF – LEARNING

(Self: word forming element indicating "oneself," also "automatic" and from Proto-Germanic "selbaz")

- It is the process by which an individual is subjected to the interest to learn some theoretical or technical issue, with the awareness that will do their utmost to put it and that will do it for their own means, at the time he decides. – *Pedagogic Dictionary*

·Intellectual mechanism that works on the criterion 'trial and error', where you tend to digest information related to individual processes. – *Pedagogic Dictionary*

STANDARD (*It comes from the Old French "estandard" ("gathering place, battle flag") and from Old Frankish "standhard"*)

·Something used as a basis of measurement – *Cambridge Dictionary*

·A basis for judging quality, or a level of excellence aimed at, required or achieved – *Cambridge Dictionary*

·An accepted or approved example of something against which others are judged or measured – *Collins Dictionary*

TEACHER (*agent noun from teach*)

·A person whose occupation is teaching others, especially children – *Collins Dictionary*

·A person who teaches, especially in a school – *Cambridge Dictionary*

TEACHING TECHNIQUES

(*Teaching, teach: From Proto-Germanic "taikijan" - "to show"*)

(*Technique: From Greek "tekhnikos" - "pertaining to art," from "tekhne" - "art, skill, craft in work"*)

·Effective ways to achieve understanding of what is exposed. – *Pedagogic Dictionary*

THEATRE (performing arts, noun) (*It derives directly from the Latin word "theatrum and from the Greek word "theatron"*)

·Plays regarded collectively as a form of art – *Collins Dictionary*

·(The writing or performance of) plays, opera... written to be performed in public – *Cambridge Dictionary*

TRAINING (*It derives from the Vulgar Latin word "traginare", extended from "tragere "to pull," back-formation from "tractus", past participle of Latin "trahere" "to pull, draw"*)

·A type of education that's focused on learning specific skills – *Ken Robinson*

“Creativity is intelligence having fun”

“Creativity is contagious. Pass it on.”
– Albert Einstein