GAME

– GYM ACTIVITIES FOR MINDS' EFFICIENCY –

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Insanity:
doing the same thing over and over again
and expecting different results
Albert Einstein

As a teacher (as a teacher educator, as a citizen and as a mother) I dream with an efficient and happy school, which promotes well-being and success in students' and teachers' lives... Yet, unfortunatly, nowadays that is not our schools' reality.

Being my role, as an educator of students with Special Educational Needs (SEN), to promote their skills in order to overcome the barrier of theirs difficulties, I realized that (to avoid *insanity*) certain 'hidden' principles are essential:

1. We must overcome the image of Special Education as "more of the same" and "extremely boring" - finding techniques and strategies[1] which also make sense for students;
2. Intervention must be designed mainly using everyone's potential or strengths (blurring of 'disabilit8y'), supporting them and encouraging them to the fullest in a positive environment and, whenever possible, in a playful way;
3. Success depends more on what the teacher does with the method rather than the method itself, and affections are the hinge that connects us and allows success and well-being;
4. Different activities should be selected and adjusted as the session go by, involving students in decision-making (Ainscow's collaborative questioning);
5. Well-being is essential to boost academic performance - it is not worth trainig academic skills in an unhappy student (and most pupils with SEN experience a lot of discomfort ...).

Schools' focus, in my opinion, is too much directed only on academic sucess. Therefore, I broaden my focus on the developement of skills that allow our students to be happy and authonomous, selfregulating their own learning, and assuming control of their lives.

Towards that goal, to promote only cognition is not enough; factors like emotion, weel-being/hapiness, beliefs, self efficacy perception and resilience are determinant for any student's academic sucess.

GAME is the outcome of a personal quest. Four main influences arise:

- Evidence Based Practice (EBP): there are recente investigations' results that allow us to select the most efficient methods;
- Positive Psichology (PP): demonstrates that it is possible to maximize personal strenghts and that happiness is the factor that influences in a positive way sucess (and not the other way around).
- Neurosciences: provide a world of understanding of how the brain works, how it can work better, and how to make teachers' and students' lives easier;
- Neuro Linguistic Programming (NLP): provides simple and effective strategies and techniques to promote mental, emotional and behavioral self-regulation.

Evidence Based Practice is based on scientific investigation, applying meta-analysis and size-effects, in order to select the most efficient practices. Petty (2009) characterized an evidence-based teaching practice: (1) apply the methods that work best (the 20/80 rule ou Pareto Principle)[2]; (2) understand the learning process (in terms of brain science); (3) and find the problems and fixed them (contextual factors), focusing on the solution.

Hattie (2009) determined, based on hundreds of meta-analysis of 13.209 investigations, what is more efficient in educational context, meaning, what has more significant impact in students' sucess; from the results' analysis it becomes clear that we need to promote "students' disposition to learn" and "student's cognitive ability". For this, two investigators give major contributes:

Ângela Duckworth's investigation, focused on students' sucess and factors that promote it, concluded that the characteristic that diferenciates students that have sucess from those who haven't, is not IQ, age, gender, economical level, school characteristics... the

[1] Strategy is a generalized approach to problems, a way to inform decisions; a technique is an action, can be practiced, honed and adapted throughout life (Lemov, 2010).

[2] Twenty percent of what you do makes 80% of the difference, so let us work more smartly, not harder, by concentrating on the factors that make this difference (Petty, 2009, p. 3).

big difference lies on each student's grit, defined as perseverance and passion for long-term goals. (Duckworth, 2007).

Carol Dweck research refers resilience as the determinant factor for students' success; she defines it as students' positive response to challenges (Yaegar & Dweck, 2012, p. 302). The key-notion is mindset, or implicit theories, about the malleability of human characteristics who have significant impact on their academic and social resilience (ibidem).

Positive Psichology promotes a new focus that goes beyond personal deficits remediation and that includes positive qualities development (Seligman & Csikszentmihalyi, 2000), i.e., promoting strenghts/capacities (instead of weakeness' therapy).

As for **Neurosciences**, being my brain/mind my working tool and my raw material students' brains/minds, I always though it was strange that nobody would enlighten us about how it works better. Thus, making a parallel with a computer, I focused on the user's perspective of the brain/mind, with a little bit of programming, selecting what is directly related to the determinant factors at school: how the brain works, how it learns and remembers, how it retrieves and connects information, emotions' role on learning, new perspectives on intelligence(s), emotional intelligence, neural plasticity, dinamyc and changeable intelligence... and so on.

Neuro Linguistic Programming is related to educational sciences since its origin, as one of its founders (Bandler, 1985, p. 117) stated: NLP explores "the subjective experience of the process by which people learn", therefore it is an educational process. "Basically, we are developing ways to teach people how to use their brains" (idem, p. 7).

GAME's central factor, and its (pro)motor, is **Happiness**. As Shawn Achor states, so far the formula has been "Success first, happiness second" (2010, p. 3), meaning: "if you work hard, you will become successful, and once you become successful, *then* you'll be happy" (ibidem)... The problem is that this formula does not work, since we have been pushing happiness beyond the cognitive horizon. The formula is broken because it is inverted. More than one decade of investigation on the fields of Positive Psichology and Neurosciences has proven that "the relationship between sucess and hapiness works the other way around. [...] happiness is the precursor to success, not merely the result" (ibidem).[3]

Happiness and optimism improve performance and sucess, giving a competitive bonus that Shawn Achor calls *Happiness Advantage*: "positive brains have a biological advantage over brains that are neutral or negative" (Achor, 2010, p. 17). Meaning that happiness gives us a chemical advantage: positive emotions flood our brains with dopamine and serotonine, chemicals which dial up the learning centres of our brains to higher levels: "they help us organize new information, keep that information in the brain longer, and retrieve it faster later on [...] enable us to make and sustain more neural connections, which allow us to think more quicly and creatively, become more skilled at complex analysis and problema solving, and see and invent new ways of doing things" (idem, p.44).

For instance, something as simple as: students to whom was told to think about the happiest day of their lives just before taking a standardized math test, outperformed their peers (Bryant & Bryant, 1991, cit. in Achor, 2010). This means that, "even the smallest shots of positivity can give someone a serious competitive edge" (idem, p.48). In addition, it can have the 'undoing effect', working like an antidote to physical stress and anxiety: "a quick burst of positive emotions doesn't just broaden our cognitive capacity; it also provides a quick and a powerful antidote to stress and anxiety, which in turn improves our focus and our ability to function at our best level" (idem, p. 49).

What are the core concepts?

We are all potential geniuses, since we all have the same *brain hardware*, equivalent to at least 15,000 laptops-end network! (Pierluigi, 2007); differences in *mind software* derive from the fact that we all have different lives, since it is through experiences that brain and mind are 'shaped' and 'programmed'. The good news is that we can influence our 'programming' through simple, and even fun, activities.

What students believe about their brains (if they see their intelligence as something that is fixed or as something that can change and grow) has significant impact on their motivation, learning and school success (Dweck, 2006, cit in Yaegar and Dweck, 2012). These different beliefs, or mindsets, create different psychological worlds: in one of them students fear challenges and get discouraged by setbacks, on the other one they appreciate challenges and are resilient.

Students' mental frame can be altered and thus their resilience is promoted. Students who believe (or start to believe) that intelligence is something that can be improved through effort and practice, see it as a potential that can be promoted through learning. This means teaching students how brain works and how it can be altered by stimulation.

Other essential concepts are: neuroplasticity (ability of neural networks to self expanding, prune, reorganize, amend, or strengthen, based on the acquisition of new information, obtaining corrective feedback and recognizing associations between new and prior knowledge) and neurogenesis (the capacity to produce new neurons to strengthen brain areas stimulated).

To promote brain stimulation it is essential to reduce the fear of making mistakes, risking participate and making mistakes: only those who think, learn. Students who risk making mistakes, benefit from fluctuations pleasure of dopamine (Tokuhama-Espinosa, 2011). An essential point is to accept that "feedback thrives with error" (Hattie, 2012, p. 115).

[3] Lyubomirsky & King (2005) made a meta-analysis of 225 studies (longitudinals, transversals and experimentals) involving about 275,000 people of different ages from around the world, concluding that chronically happy people are generally more successful in many areas of life than people less happy people.

Error is the difference between what I know and can do and what I want to know and do. Recognize the error is to create opportunity to move toward the goals, self-adjusting learning.

How does GAME works?

The motto and guiding principle is the inscription at the entrance to the Temple at Delphi: *Cnoi Cayton* (Know thyself).

Sessions consist of a part of exposition and explanation of the techniques and strategies, followed by demonstration of its application, consolidated with training in groups/pairs. The starting point can be an article, a story, a picture, a cartoon and playfulness is always present, as it promotes motivation, engagement and release of dopamine and serotonin.

In each session it is made an initial assessment of the integration in 'real life school' of what which was discussed in the previous session (or previous sessions), sharing doubts, achievements and adjustments. If necessary, individual sessions can occur, in specific situations.

Subjects and activities are selected, intertwined, developed and trained throughout the sessions according to the results of their application and subsequent reflection. The methodologies used are mostly active participation in order to train techniques and strategies, reflection and discussion about them, exploring content and materials and producing 'abstracts' with the main ideas that run through four areas:

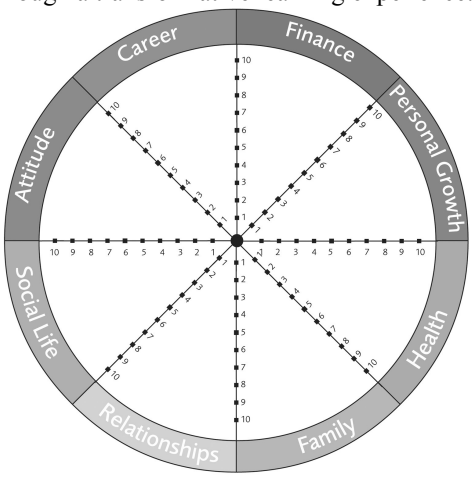
1. **Knowledge** - how the brain/mind works, their interrelation and relation with the body (soma); emotions and their role in learning; memory operation and retrieval of information; the role of sleep in memory ...; happiness and how to increase it in order to be more efficient...
2. **Self-Knowledge** – how do 'I' work; how to maximize my attention/concentration; how to deal with my emotions and control my impulses; how I memorize more efficiently ...; what makes me (more) happy ...
3. **Intrapersonal Skills** - how can I control my internal processes and "learn more by studying less" ...; how I will feel happier to have more success ...
4. **Interpersonal Skills** - communicate effectively; establish rapport; ... ask formative feedback; give feedback to the teachers; influence others towards happiness ...

Throughout the sessions, it is intended that students will be taking ownership of the techniques and strategies so that they become their tool box for school and for life. Some even call it 'my backpack of resources'.

First session:

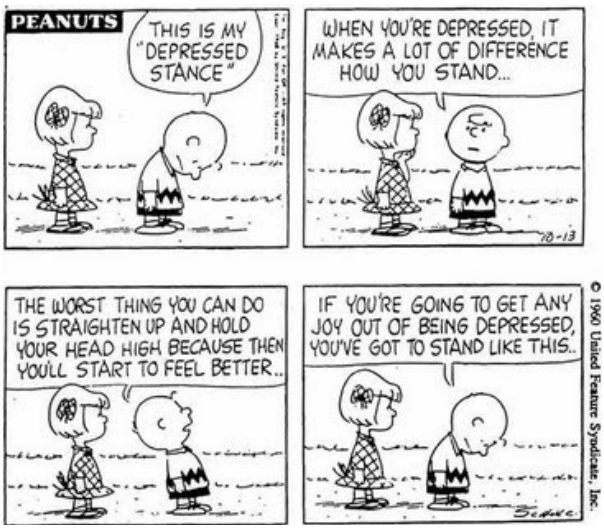
GAME is explained and how sessions will take place is introduced, putting the emphasis on the fact that they will be provided with a *User's Manual for the Brain*, which is only possible dued to recent discoveries in neuroscience.

As a starting point, students fill out a *Wheel of Life* with the level (1 to 10) of subjective satisfaction in each area; at the end of the school year, they fill another, compare both and reflect, realizing that they went through a transformative learning experience.



This is the starting point for implementing the first three intentional activities of promoting subjective well-being or happiness that research reveals have the most significant impact: (1) feelings of gratitude, (2) practicing mindfulness and (3) body posture:

1. Register daily, at bedtime, three positive things that they feel grateful for – from all emotions, gratitude is the one who promotes more subjective well-being; in addition it reinforces body's immune system; registration makes our focus (pre)programmed to detect negative events (reinforced by the media), and directs it to positive events and their valorization.
2. Practice Mindfulness – as we promote attention '*here and now'*, stress and anxiety decreases, leading to improvement of self-controlled attention and concentration;
3. Use posture and smiling to influence the emotional state - for every thought there is a *soma* (manifestation in the body); in this case, when we are sad, body 'shrinks' (we curve, lowered the head, shoulders go ahead ...) and facial expression 'closes up'; the key is that, if what we think influences posture and expression, the other way around has the same impact: raising the head, neck back, smile, pull your shoulders back, 'open' chest, causes mental state relief:



In this article it is not possible to explain all GAME's contents and activities, also because many of them need to be learned and specifically trained.

What are GAME's effects?

Students report that their life is, in fact, facilitated (Pareto Principle). This is evident in the 'slogan' that appeared in one of the sessions: It is possible to *learn more and study less*.

In addition to acquiring new knowledge and skills, students get fredmon from limiting beliefs (mental frames) that were imprisoning their true potential. They take control of their minds and emotions, acquire resilience, self-reliance and assuming responsibility for their decisions and behaviors. Above all, students cease to think/feel that life happens to them and that their behavior is caused by others (external locus) and learn to recognize that they can build their own beliefs system that influences their behavior (internal locus).

GAME's sessions enable students to establish learning objectives (or others), to test its sustainability and to watch over the process (not just the final product) if they are on the path to achieve them (sensory acuity). Thus, self-knowledge increases as students learn to 'read' their experiences and cope with their internal dialogue and emotional reactions; this process has real and lasting impact by changing their behavior and academic performance as they continue to take self-regulation of their behavior and learning process.

A student used the following metaphor that I can not resist sharing: "You know, before it was as if I had a super modern playstation with lots memory, connected to the net at high speed ... and only saw *Demos*! It was like that with my brain and how I felt and my reactions ... Now, with these sessions, you gave me a command. And now I can play! Who's in charge now? I am! ".

Do the results persist? A former student, now at college, visited us in May: "Teacher, I overcame my wildest expectations; I have no unit left behind and I am working! "Another posted on her facebook in early July: "Units all made!". And the heart of a teacher feels cozy ...

And inclusion came unexpectedly: pupils without SEN requested to participate in the GAME...

To be a teacher is to see potential
Were all others only see a hopeless case.
Roseli Fortunato Mestre

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