



## **Entrepreneurial teaching & entrepreneurial teachers**

## **Enseñanza emprendedora y profesores emprendedores**

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**Abstract**

We live in a time of unprecedented social, economic, technological and environmental problems and desperately are in need of change and improvement in many different areas on a global scale. Present education systems are fundamentally based on Verbal/Linguistic and Mathematical/Logical Intelligences, defined as IQ, and as a result focus mainly on the functions of the left brain. These systems aim at acquiring similar skills and passing the courses and as a result provide advantages to those who already have an advanced level of these intelligences in their profiles of intelligences. Since these systems assess individuals via standardized and centrally performed tests, they never help individuals to question, to think, be creative, take risks and think critically. The answer to all these concerns is entrepreneurial teaching and teachers. Entrepreneurial teaching which takes individual differences into account and is based on alternative assessment systems has the power to be the ultimate solution to overcome present obstacles of education systems. Entrepreneurial teaching implemented by entrepreneurial teachers has a potential power to help the world create economic growth, jobs, innovation and raise happy citizens capable of finding solutions for many long-lasting and ever-growing global issues in all sectors. This paper focuses on explaining how individual differences and alternative assessment techniques could be used by entrepreneurial teachers to implement entrepreneurial teaching.

**Resumen**

Vivimos en una época de problemas sociales, económicos, tecnológicos y ambientales sin precedentes y en una desesperada necesidad de cambio y mejora en muchas áreas diferentes a una escala global. Los sistemas educativos actuales se basan en su mayoría en inteligencias Verbal/lingüística y matemáticas/lógica, definidas como coeficiente intelectual, y como resultado se centran principalmente en las funciones del cerebro izquierdo. Estos sistemas tienen como objetivo la adquisición de habilidades similares y pasar los cursos y como resultado proporcionan ventajas a aquellos que ya han mejorado el nivel en estas inteligencias en sus correspondientes perfiles. Dado que estos sistemas evalúan los individuos a través de pruebas estandarizadas y se realizan de forma centralizada, nunca ayudan a las personas a cuestionar, pensar, ser creativo, tomar riesgos y piensan críticamente. La respuesta a todas estas preocupaciones es la enseñanza emprendedora y los profesores emprendedores. La enseñanza emprendedora tiene en cuenta las diferencias individuales y se basa en los sistemas de evaluación alternativa y tiene el poder de ser la solución definitiva para superar los obstáculos actuales de los sistemas de educación. La enseñanza emprendedora implementada por profesores emprendedores tiene un poder potencial para ayudar al mundo a conseguir un crecimiento económico, empleo, innovación y conseguir ciudadanos felices, capaces de encontrar soluciones para muchos duraderas y crecientes problemas globales en todos los sectores. Este documento se centra en explicar cómo las diferencias individuales y las técnicas de evaluación alternativas podrían ser utilizadas por los profesores emprendedores para poner en práctica la enseñanza emprendedora.

**Keywords**

Entrepreneurship; Entrepreneurial teaching; Entrepreneurial teachers

**Palabras clave**

Emprendimiento; Enseñanza emprendedora; Profesores emprendedores

## 1. Introduction

Education is universally accepted as an essential element in the process of national development and prosperity. And there is no doubt that teachers play a significant role in the success of any educational system for a positive societal change. Quality and well-equipped teachers can lead education to the highest quality.

We live in a time of unprecedented social, economic, technological and environmental problems and desperately are in need of change and improvement in many different areas on a global scale.

Current concerns and ever increasing need of change are placing pressure on education systems and calling into question many of the traditional models, content and processes of education leading to new thinking about the nature of education, what learners should know and what they should be able to do as a result of their education in order to be able to come up with innovative solutions to these concerns and meet the needs of individuals of nations.

It is obvious that current educational models, assumptions about learning and approaches to learning and teaching are unable to equip individuals for these new and unexpected challenges, and, as educators, we need to create alternatives. That is, we desperately need for an educational paradigm shift.

## 2. Current education practices

Present education systems are fundamentally based on verbal/linguistic and logical/mathematical intelligences and as a result focus mainly on the functions of the left brain (Altan, 2014).

Verbal/linguistic intelligence can be defined as the sensitivity to spoken and written language, the ability to learn languages, and the capacity to use language to accomplish certain goals. Whereas, logical/mathematical intelligence can be defined as the capacity to analyze problems logically, carry out mathematical operations, and investigate issues scientifically (Gardner, 1999).

Present education systems force all individuals to put on the same size and never help them to question, think, be creative, take risks and think critically which are necessary and vital of having an entrepreneurial mindset and as a result become an entrepreneur (Altan, 2014).

The purpose of this paper is to present a framework for teaching in a new world. I advocate the concept of entrepreneurial teaching as an educational model which is in contrast to the current ways-the known worlds-in which we are currently teaching entrepreneurship. Instead, I am advocating entrepreneurial education and teachers who are trained to be entrepreneurial themselves.

## 3. Entrepreneurship & entrepreneurship education

The concept of entrepreneurship is not new and usually draws on economic theory and argues that the entrepreneurs can shift economic resources out of an area of lower and into an area of higher productivity and greater yield (Drucker, 1985). Any change which unsettles economic balance is due to an innovative entrepreneur who sees change as the norm and as healthy to an economy. These changes are generally considered to be opportunities for entrepreneurs in order to innovate, to create new ways of doing things, and even to create resources for further economic and social development necessary for nations. Therefore, Drucker (1985) defines the entrepreneur as the one who always searches for change, responds to it, and exploits it as a possible opportunity.

The concept of entrepreneurship is often associated with the concept of innovation. Such innovation does not always have to be economic or technological or even result in a tradable product for the market. Innovation can be social. Changes for example in an education system, environmental policy, social inequity or a national health service can be considered to be social innovations since they would have a profound impact on society as well as on economy. Therefore, entrepreneurs and the practice of entrepreneurship can be found in every part of life and in any type of organization.

On the one hand, entrepreneurship is complex, chaotic, and more importantly lacks any notion of linearity (Neck & Greene, 2011, p.55). The present worldview usually focuses on a linear process and it is believed that if entrepreneurship is carried out correctly, it will increase the possible venture success (Neck & Greene, 2011).

On the other hand, it is a common belief that entrepreneurship is easy to teach, talk on it and give seminars about. Therefore, the steps of entrepreneurship education are usually introductory entrepreneurship courses followed by electives such as opportunity, entrepreneurial marketing, entrepreneurial finance, and managing (EC, 2008). And not to forget of attending here and there, hit and run type seminars given by so-called entrepreneurs or gurus of the field! As a result, it is assumed and expected that individuals having such courses and attending such seminars would automatically have entrepreneurial mindsets and eventually practice entrepreneurship!

The problem, as Neck and Greene (2011) claim, is that entrepreneurship is neither linear nor predictable. That's by taking a course on entrepreneurship or attending to a seminar on entrepreneurship will not automatically help someone to show entrepreneurial behaviors. So how do people think entrepreneurially? What and how should we teach so that people can think entrepreneurially?

#### **4. Entrepreneurial teaching**

Although there is a significant increase in the number of courses and programs about entrepreneurship education, the teaching of entrepreneurship is not yet sufficiently integrated in higher education institutions' curricula. And the available data reveal clearly that the majority of entrepreneurship courses are offered in business and economic studies (EC, 2008).

Are business schools the most appropriate place to teach entrepreneurship? Innovative and viable business ideas are more likely to arise from technical, scientific and creative studies. So the real challenge is to build inter-disciplinary approaches, making entrepreneurship education accessible to all students, creating teams for the development and exploitation of business ideas, mixing students from economic and business studies with students from other faculties and with different backgrounds (EC, 2008; Neck & Greene, 2011).

The entrepreneurial world has clearly showed us that there is no one type of entrepreneur. Therefore, Neck and Greene (2011, p.59) point out that diversity in the ways people can be entrepreneurs should be recognized.

How could this diversity be recognized? It is clear that with the present process approach, and the type of entrepreneurship education, it is impossible to recognize this diversity (Neck and Greene, 2011). Therefore, as a new concept, Neck and Greene (2011) propose teaching entrepreneurship as a method which requires using, applying, and acting rather than emphasizing understanding, knowing, and talking.

However, even teaching entrepreneurship as a method concept lacks a very important part and seems unable to explain of how this method could help students to know more about themselves so that we could be away from the monolithic personality of entrepreneur as discussed by Neck and Greene (2011).

Therefore, I advocate that instead of creating specific courses designed to educate entrepreneurs either as a process or as a method, the whole education system should be designed entrepreneurially so that individuals could build entrepreneurial mindsets to help them to perform entrepreneurship in every area.

Entrepreneurial education taking individual differences into account and based on alternative assessment systems has the power to be the ultimate solution to overcome the present obstacles and to achieve improvements for the future of the nations. Here the emphasis is on entrepreneurial education which triggers creativity rather than entrepreneurship education which is presently seen and practiced in many educational contexts (Altan, 2014).

Indeed, individual differences in creativity, ambition, and risk-taking can explain why some people have much more potential for entrepreneurship than others, and valid personality measures can help us identify who the entrepreneurs of tomorrow will be. This will also help the individuals to discover themselves, to see their strong and weak sides along the journey of entrepreneurship.

Sociopolitical factors also play an important role in building entrepreneurial mindsets and performing entrepreneurial activities. Education, even performed entrepreneurially, cannot be able to create the desired entrepreneurs (Altan, 2014; EC, 2012). Therefore, socio-political factors contributing to entrepreneurial attitudes should not be underestimated. For example, it is a lot harder to perform entrepreneurship in some countries, e.g. North Korea, whereas it is much easier in South Korea. Another point to keep in mind is that in any country at any given point of time, there will still be more or less entrepreneurs (EC, 2012).

By taking individual differences into account and implementing performance based or alternative assessment techniques, entrepreneurial education aims to prepare enterprising individuals who are creative, ready to take risks, think critically, responsible for the society they live in and who have the attitudes, skills and knowledge necessary to achieve the goals they set for themselves to live a fulfilled life and as result help the prosperity of the communities they live in (Altan, 2014). It is clear that identifying and nurturing entrepreneurial potential among the youth can have long-term implications for the development of nations in many areas including economy. Who is responsible for this nurturing?

As educators, we have the responsibility to develop the discovery, reasoning, initiation and implementation skills of our students so they can be successful in highly uncertain environments.

Entrepreneurial education implemented by entrepreneurial teachers has a potential power to help the world create economic growth, jobs, innovation and raise happy citizens capable of finding solutions not only for economy as it is the general view of today's entrepreneurship, but also for many long-lasting and ever-growing global issues in any areas (Altan, 2014).

Since there is not one type of entrepreneur, there should not be just one type of education system based on two types of intelligences (verbal/mathematical) and with the same token there should not be just one type of assessment (standardized, multiple choice tests)!

Current education practices focusing on academic success evaluated by centralized high-stake standardized tests or school-based tests based on mathematical/linguistic intelligences which focus only left side of the brain reduce or even kill creativity, risk taking, critical thinking and all other characteristics necessary and vital for entrepreneurs (Altan, 2014).

It is obvious that current education practices kill individuals' entrepreneurial potentials. The rich diversity in entrepreneurial motivation and entrepreneurs should lead us to think about the diversity in learning and assessment.

## 5. Why to support entrepreneurial teaching?

Why to support entrepreneurial teaching, entrepreneurship as a teaching or as an education philosophy?

If we can take entrepreneurship as a teaching or education philosophy, we can help individuals to understand, develop, and practice the skills and techniques needed for productive entrepreneurship at all levels and areas.

Approaching entrepreneurship as a teaching philosophy means teaching a way of thinking and acting built on a set of assumptions which take individual differences into consideration and use alternative assessment techniques to encourage creativity, risk taking, critical thinking, etc. that is all necessary qualities to have an entrepreneurial mind-set!

This type of education will involve developing behaviors, skills and attributes applied individually and/or collectively to help individuals and organizations of all kinds to create, cope with and enjoy change and innovation. In an ever-changing world, we need to teach with the philosophy to help individuals to cope with problems and come up with creative solutions.

In fact, the strategy of the European Union also highlights the importance of the development of entrepreneurial culture by fostering the right mind set, entrepreneurial skills and awareness of career opportunities too (EC, 2006).

Very often it has been reported that the greatest obstacle in Entrepreneurship Education are the teachers and their attitudes towards entrepreneurship (Pesonen & Remes, 2012).

Teachers are in a central role in implementing entrepreneurship education, and more importantly in finding the best practices.

Entrepreneurship education needs to be taught entrepreneurially. This, in turn, will make the education entrepreneurial (Altan, 2014).

Entrepreneurial teaching or pedagogy is still seen as the part of business studies and teaching entrepreneurship often uses business terminology and methods. This misconception is a significant problem when we talk about entrepreneurial pedagogy or teaching.

Entrepreneurship education should be embedded within the standard curriculum instead of an add-on in certain classes, as it is the case of today's practices.

Teacher education programs should be designed to provide entrepreneurial pedagogy so that future teachers could easily implement it in their classrooms. In educational context it is the behaviors associated with entrepreneurship that are important.

Can these behaviors be developed in individuals? Or are they genetically encoded?

Nature vs nurture?

I believe that the entrepreneurial spirit is definitely the result of both biology and culture. Unless the education culture is based on cultivating, enriching and assessing these qualities, it is impossible to teach them formally by just opening some courses or organizing some seminars. The challenge is to allow individuals to experience and feel the concept rather than just learn about it in the conventional sense.

The pedagogy should encourage learning by doing, by exchanging, by copying, by experimentation, by risk taking and positive mistake making, by creative problem solving, by feedback through social interaction, by dramatization and role playing, by close exposure to role models and in particular, interaction with the outside world.

Who will practice this kind of teaching? The entrepreneurial teacher, of course!

## 6. Standard tests & entrepreneurship

If the culture does not support entrepreneurship, individuals will not be able to perceive it as an option. Learning to fish requires something even more basic than bait, nets, or an adequate supply of fish, the water of course. In order to start fishing, an entrepreneurial culture needs water.

It is clear and obvious that standardized curriculum, uniformly carried out fact- transferring teaching approach, narrowly prescribed classroom activities and rigorous high stakes-centrally administered tests are unable to produce entrepreneurial individuals (Altan, 2014).

In such cultures, then it becomes very difficult to raise and nurture creative artists, musicians, scientists, athletes, business people, politicians, academics, sportsmen, judges, doctors, teachers, farmers, etc.

We can see this better when we compare the scores of an international standardized test called PISA (The Program for International Student Assessment) with the list of countries with high creativity and innovation-driven entrepreneurship profiles (See Table 1).

It's not surprising to see countries which consistently produce outstanding scores in international standardized tests like PISA (The Program for International Student Assessment) show a very low level of creativity and innovation-driven entrepreneurship.

**Table 1.**  
OECD PISA 2012 country results

	<b>Maths</b>		<b>Science</b>		<b>Reading</b>
1	Shanghai, China	1	Shanghai, China	1	Shanghai, China
2	Singapore	2	Hong Kong, China	2	Hong Kong, China
3	Hong Kong, China	3	Singapore	3	Singapore
4	Taiwan	4	Japan	4	Japan
5	South Korea	5	Finland	5	South Korea
6	Macau, China	6	Estonia	6	Finland
7	Japan	7	South Korea	7=	Taiwan
8	Liechtenstein	8	Vietnam	7=	Canada
9	Switzerland	9	Poland	7=	Ireland
10	Netherlands	10=	Liechtenstein	10	Poland
11	Estonia	10=	Canada	11=	Liechtenstein
12	Finland	12	Germany	11=	Estonia
13=	Canada	13	Taiwan	13=	Australia
13=	Poland	14=	Netherlands	13=	New Zealand
15	Belgium	14=	Ireland	15	Netherlands
16	Germany	16=	Macau, China	16=	Macau, China
17	Vietnam	16=	Australia	16=	Switzerland
18	Austria	18	New Zealand	16=	Belgium
19	Australia	19	Switzerland	19=	Germany
20=	Ireland	20=	Slovenia	19=	Vietnam
20=	Slovenia	20=	United Kingdom	21	France
22=	Denmark	22	Czech Republic	22	Norway
22=	New Zealand	23	Austria	23	United Kingdom
24	Czech Republic	24	Belgium	24	United States
25	France	25	Latvia	25	Denmark
26	United Kingdom	26	France	26	Czech Republic

	Maths		Science		Reading
27	Iceland	27	Denmark	27=	Austria
28	Latvia	28	United States	27=	Italy
29	Luxembourg	29=	Spain	29	Latvia
30	Norway	29=	Lithuania	30=	Luxembourg
31	Portugal	31	Norway	30=	Portugal
32	Italy	32=	Italy	30=	Spain
33	Spain	32=	Hungary	30=	Hungary
34=	Russia	34=	Luxembourg	34	Israel
34=	Slovakia	34=	Croatia	35	Croatia
36	United States	36	Portugal	36=	Iceland
37	Lithuania	37	Russia	36=	Sweden
38	Sweden	38	Sweden	38	Slovenia
39	Hungary	39	Iceland	39=	Lithuania
40	Croatia	40	Slovakia	39=	Greece
41	Israel	41	Israel	41=	Russia
42	Greece	42	Greece	41=	Turkey
43	Serbia	43	Turkey	43	Slovakia
44	Turkey	44	United Arab Emirates	44	Cyprus
45	Romania	45	Bulgaria	45	Serbia
46	Cyprus	46=	Serbia	46	United Arab Emirates
47	Bulgaria	46=	Chile	47=	Thailand
48	United Arab Emirates	48	Thailand	47=	Chile
49	Kazakhstan	49	Romania	47=	Costa Rica
50	Thailand	50	Cyprus	50	Romania
51	Chile	51	Costa Rica	51	Bulgaria
52	Malaysia	52	Kazakhstan	52	Mexico
53	Mexico	53	Malaysia	53	Montenegro
54	Montenegro	54	Uruguay	54	Uruguay
55	Uruguay	55	Mexico	55	Brazil
56	Costa Rica	56	Montenegro	56	Tunisia
57	Albania	57	Jordan	57	Colombia
58	Brazil	58	Argentina	58	Jordan
59=	Argentina	59	Brazil	59	Malaysia
59=	Tunisia	60	Colombia	60=	Argentina
61	Jordan	61	Tunisia	60=	Indonesia
62=	Colombia	62	Albania	62	Albania
62=	Qatar	63	Qatar	63	Kazakhstan
64	Indonesia	64	Indonesia	64	Qatar
65	Peru	65	Peru	65	Peru

When we look at the list of countries with high level of creativity and innovation-driven entrepreneurship, we see a very different list compared to PISA results (See Table 2).

**Table 2.**

List of top countries with high level of creativity and innovation driven entrepreneurship, GEM 2012.

Country	Rank	Score
United States	1	82.5
Canada	2	81.7
Australia	3	77.9
Sweden	4	73.7
Denmark	5	72.5
Switzerland	6	70.9
Taiwan	7	69.5
Finland	8	69.3



<b>Country</b>	<b>Rank</b>	<b>Score</b>
Netherlands	9	69.0
United Kingdom	10	68.6
Singapore	11	67.9
Iceland	12	67.5
France	13	67.2
Belgium	14	66.5
Norway	16	65.1
Chile	16	65.1
Germany	17	64.6
Austria	18	64.0
Ireland	19	61.8
Puerto Rico	20	61.7
Israel	21	59.7
Estonia	22	59.0
Slovenia	24	52.7
Qatar	24	52.7
Colombia	25	49.8
Lithuania	26	49.6
Poland	27	49.1
Latvia	28	48.4
United Arab Emirates	29	48.3
Oman	30	47.6
Portugal	32	46.9
Spain	32	46.9
Korea	33	46.7
Hong Kong	35	46.6
Slovakia	35	46.6
Japan	36	46.1
Bulgaria	37	45.5
Bahrain	38	45.4
Uruguay	39	45.3
Turkey	40	44.7
Romania	42	44.6
Czech Republic	42	44.6
Hungary	43	44.5
Kuwait	44	44.3
Malaysia	45	44.1
Saudi Arabia	46	43.5
China	47	41.6
Peru	48	41.3
Italy	50	40.9
Croatia	50	40.9
South Africa	51	40.4
Cyprus	52	40.3
Montenegro	53	39.5
Brunei Darussalam	54	39.3
Lebanon	55	38.9
Barbados	56	38.5
Argentina	57	38.4
Mexico	58	38.2
Greece	59	37.8
Tunisia	61	37.2
Costa Rica	61	37.2
Namibia	62	36.8

Country	Rank	Score
Macedonia	63	36.2
Botswana	64	35.6
Thailand	65	35.5
Panama	66	34.8
Dominican Republic09	68	34.3
Indonesia	68	34.3
Serbia	69	34.0
Russia	70	33.2
Gabon	71	32.8
Albania	72	32.6
Jordan	73	31.7
Nigeria	74	31.6
Jamaica	75	31.4
India	76	31.3
Moldova	77	31.2
Bolivia	78	31.1
El Salvador	79	31.0
Kazakhstan	80	30.6
Brazil	81	30.4
Trinidad & Tobago	82	30.4
Ukraine	83	30.2
Morocco	84	29.5
Ecuador	85	29.3
Algeria	86	29.1
Swaziland	87	29.0
Paraguay	88	28.9
Angola	89	28.7
Philippines	90	28.5
Zambia	91	28.4
Bosnia and Herzegovina	92	27.8
Venezuela	93	26.4
Ghana	94	26.3
Egypt	95	25.2
Senegal	96	24.8
Benin	98	24.7
Cameroon	98	24.7
Liberia	99	24.5
Iran	100	24.2
Honduras	101	24.0
Kenya	102	23.8
Tanzania	103	22.5
Nicaragua	104	22.1
Mozambique	106	21.1
Rwanda	106	21.1
Gambia	107	21.0
Malawi	108	20.9
Guatemala	109	20.7
Burkina Faso	110	19.9
Ethiopia	111	19.8
Madagascar	112	19.6
Côte d'Ivoire	113	19.4
Uganda	114	19.3
Mali	115	18.8
Pakistan	116	18.7

Country	Rank	Score
Mauritania	117	18.5
Sierra Leone	118	17.6
Burundi	119	15.5
Chad	120	15.0
Bangladesh	121	13.8

The Global Entrepreneurship Monitor (GEM) provides annual assessment of entrepreneurial activities, aspirations, and attitudes of individuals in over 50 countries. Initiated in 1999, about the same time when PISA began, the GEM (2012) has become the world's largest entrepreneurship study.

Comparing the two sets of data shows clearly that countries scoring high on the PISA do not have the level of entrepreneurship that match their brilliant scores.

In cultures nothing except academic success is of value and if something does not help to get good scores, it gets no importance and attention. So individuals are discouraged to do anything but studying for the exams!

Standard tests reward only those who are skilled in finding the correct answer. They are usually discouraged to take risks, ask questions since four wrong answers get one correct answer! In such a situation who can dare to take risks? Making mistakes is not allowed and even not considered to be normal (Altan, 2014).

Since individuals are judged with a single criterion in such standardized and centrally-performed exams, they are usually compared with their peers. An individual who stays much behind his or her peers after the first exam, loses his or her self-esteem, which is one of the very important characteristics of becoming an entrepreneur.

## 7. Why individual differences?

On the one hand, teachers and university professors have been expressing frustration about attendance to courses, failures in completing reading assignments, and students' ever-increasing focus on grades instead of learning. On the other hand, students complain about the poor quality of the course contents, lack of their efficient delivery and as a result they question the value of what they have been learning in classrooms. Dolence and Norris (1995) point out that both society and individuals have different needs, both in terms of what people need to learn and how they can and should learn what they have been taught. Therefore, the goal of education should be helping learners to develop their own intellectual tools and learning strategies instead of transferring subject matter knowledge.

As mentioned previously, individuals bring a huge variety of skills, needs, and interests to learning. Neuroscience reveals that these differences are as varied and unique as our DNA or fingerprints. Therefore, curricula, that is educational goals, methods, materials, and assessment should be designed to enable all individuals to gain knowledge, skills, and enthusiasm for learning.

Individual differences can influence how an individual behaves in various situations. Therefore, understanding and respecting these differences can help us know how to best support and respond to what an individual needs.

Individual differences can help learners to become self-directed, empowered, and responsible for their actions and civic values along with developing self-awareness about why they learn and questioning the process of learning.

Awareness on individual differences will eventually help individuals to take the initiative to diagnose their learning needs, formulate learning goals, identify necessary resources for learning, select and implement learning strategies and finally evaluate learning process.

The key to telling the impact of individual differences on behavior is to think about an individual's unique personality and his or her general approach to the world.

This could only be accomplished by simultaneously providing rich supports for learning and reducing barriers to the curriculum, while maintaining high and varied achievement standards for all students.

It is very important to recognize our thinking patterns and be aware of the strengths and weaknesses of these patterns while dealing with information, learning and living. Individuals must be aware of how they think and process information and appreciate other people's different approaches. However, present education systems are far away from accomplishing this vision.

Respect for individual differences and its deliberate implementation in teacher education will directly affect future teachers' teaching, will have impact on basic transformation of our schools, will help learners to discover their real potentials and use them both for the personal and the social development (Altan, 2014).

Identifying and accommodating students with special needs will definitely help us to build better personalities. As a result, the awareness on individual differences will have a great impact in raising more individuals with entrepreneurial spirits.

#### **8. Basic individual differences (Altan, 2014)**

- Motivation
- Intelligence
- Theory of Multiple Intelligences
- Age & learning
- Gender & learning
- Attitude & learning
- Self-esteem & learning
- Learning strategies
- Brain and its functions
- Learning styles
- Personality & learning
- Risk taking
- Field dependence/Field independence
- Tolerance of ambiguity
- Anxiety level
- Beliefs about learning

The affective domain receives very little attention from the present education practices since they mostly focus on the cognitive aspects of the teaching and learning and as a result most of the classroom time and assessments are designed for cognitive outcomes. Therefore, we desperately need a paradigm shift.

Attention to affective factors will not only help individuals to be better learners but also help them to live more satisfying lives and become responsible citizens.

There are many comprehensive professional assessments for identifying the students' profiles and specific needs so that teachers can perform thorough evaluation and implement remedies.

## 9. Why alternative assessment?

Assessment policies exert considerable influence over the education in general since assessments influence the identification, classification, placement, and ongoing monitoring of students (Lachat & Spruce, 1998).

Traditional standardized tests are intelligently biased and tend to favor those who are left brain dominant and have better verbal/mathematical intelligence and so a variety of instructional and assessment strategies that address diverse learning styles are needed (Altan, 2014).

Present assessment practices, mainly standardized, left brain dominant and mathematical and verbal intelligence focused, are not designed for/with the diversity of today's population and to meet the needs of 21st century skills (Altan, 2014).

Although who said it is a disputed topic, the quote "Everybody is a genius. But if you judge a fish by its ability to climb a tree, it will live its whole life believing that it is stupid.", and the cartoon related to this philosophy will suit well to explain the current situation discussed here.



## Our Education System

Assessment results shape teachers' beliefs about student abilities and the quality of instruction offered to them.

Alternatives to standardized assessment have been referred to in the literature in many ways: alternative assessment, authentic assessment, or performance-based assessment.

"Alternative assessment refers to procedures and techniques which can be used within the context of instruction and can be easily incorporated into daily activities of both the school and the classroom" (Hamayan, 1995, p.213).

Unlike standardized testing, it does not provide a comparison of an individual to a larger group beyond the students in a given classroom.

## 10. Types of alternative assessment

In order to capture complex outcomes, alternative assessment goes far beyond the assessment of knowledge and facts to the more complex goals of assessing and developing most valued life-long skills of creative thinking, problem solving, summarizing, synthesizing, and reflecting.

Since alternative assessment techniques focus on the students' strengths rather than weaknesses, they usually enable the teacher to get a more accurate view of students' achievement, of what they can do, and of what they are trying to do.

To meet the present differences in individuals, alternative assessment techniques offer a broad spectrum of assessment possibilities to nurture these differences in learning. Some of the most widely used techniques I myself have used in my classes and I highly recommend are:

- Portfolios
- Process folios
- Diaries, Journals, and writing folders
- Audio and video recordings
- Conferences
- Performances
- Individual or group projects
- Student logs
- Selected responses
- Oral reports
- Exhibitions and demonstrations
- Interviews
- Essays
- Anecdote logs
- Audio and visual
- Take home exams
- Minute papers
- Fact maps
- Graphic organizers
- Dramatic readings
- Dramatic performances
- Debates
- Contracts
- Observations
- Reports
- Simulations

## 11. Assessment & entrepreneurship

Entrepreneurs are no longer only those who start a business and try to maximize profits. We are talking about and in fact, are in need of many different types of entrepreneurs.

We need people with entrepreneurial spirit in every single profession and sector of industry. No matter what we do and are after, everyone needs to own entrepreneurial characteristics in the 21st century and onward.

With this expanded definition of entrepreneurship, it will be much easier for people with entrepreneurial spirit to have more power to solve the ever increasing complex problems facing human beings and bring prosperity to humanity.

Why don't we have enough entrepreneurs for every sector? What is missing is the entrepreneurial mindset-critical thinking, creativity, risk taking, curiosity, imagination collaboration, seeking opportunity and opportunity recognition.

What causes to the lack of entrepreneurial mindset? Present educational systems around the world push students toward the same pathways followed by their parents in the last century! (Altan, 2014).

This system is designed to produce typical workers or civil servants, not good entrepreneurs. This type of education systems produce slaves with diplomas unable to question, to think critically, to be creative, to take risks due to memorization and measurable, predictable results of standardized tests! (Altan, 2014).

Facts transferring teaching and standardized testing force emphasis on rote learning instead of critical, creative thinking, and destroy and eventually diminish students' curiosity available from birth. Standardized tests leave no room for imagination, curiosity, creativity and critical thinking, which are at the heart of entrepreneurial spirit! (Altan, 2014).

## 12. Conclusions

To prepare global, creative, risk taking, critically thinking, and entrepreneurial individuals for our futures, education systems should not harm their curiosity, imagination, desire to be different by imposing outdated practices and assess with standardized tests designed for "one size fits all" philosophy. Instead, education should be able to enhance human curiosity and creativity, encourage risk taking, and cultivate the entrepreneurial spirit (Altan, 2014). Educational organizations at all levels and teachers have a great responsibility of designing curriculum with various learning experiences to stimulate, guide and lead the student brains. And teacher educators have the responsibility to train teachers to able to perform these qualities.

Entrepreneurs have always existed in human history, and they have been a major driving force for economic prosperity. However, it seems impossible to increase the number of entrepreneurs with the present philosophy of education!

We no longer need better test takers who think, act and live the same way. Instead we need individuals who are more creative, innovative, and able to come up with solutions to both present and future concerns of the societies they live in.

This could only be accomplished by an educational system taking individual differences into account and which focuses on performance-based assessment.

That is, through entrepreneurial teaching performed by entrepreneurial teachers who are trained entrepreneurially too (Altan, 2014).

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