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EXTRABILITY AND THE THEORY OF MULTIPLE INTELLIGENCES AS A PHENOMENON FOR AN INCLUSIVE EDUCATION RENEWAL

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Abstract:
The aim of an education system is to raise better generations to bring the desired dreams to come true. New possibilities exist today which are the result of the convergence of the increase in information and the unprecedented capacity to communicate. Therefore, these new possibilities must be seized with creativity and a determination for increased effectiveness. Today, meeting the basic learning needs of all requires more than a recommitment to basic education as it now exists. What is needed is a paradigm shift that surpasses present resource levels, institutional structures, curricula, and conventional delivery systems while building on the best in current practices to strengthen partnership and promoting equity. Therefore, education systems should be able to contribute to creating a more equal, inclusive and socially just world. Unfortunately, most present education systems, philosophies and implementations limit their students' ability to fully access or participate in learning. As a result, so called integration is not necessarily a step towards inclusion. This paper advocates an educational renewal designed to build the capacity of our school system to be really inclusive to support the success of all students with all types of individual differences. Helping all students with all types of individual differences and diversity should be both the promise and the challenge of inclusive education.

Keywords: inclusive education, extrability, theory of multiple intelligences, alternative assessment, education renewal

1. Introduction

In this paper, the term renewal borrowed from Goodlad (1999) has been used on purpose instead of reform. Goodlad warns us to think in terms of school "renewal," rather than "reform." Goodlad points out that "*The language of reform carries with it the traditional connotations of things gone wrong that need to be corrected, as with delinquent boys or girls*

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incarcerated in reform schools. This language is not uplifting. It says little or nothing about the nature of education, the self, or the human community. . . . On the other hand, school renewal is a much different game. . . the language and the ethos of renewal have to do with the people in and around schools improving their practice and developing the collaborative mechanisms necessary to better their schools" (1999, pp. 574-75).

The aim of an education system is to raise better generations to bring the desired dreams to come true. Since education promotes sound economic processes and political dispensations, it becomes clear that without education, society would be in a state of complete chaos. The quality of the education that the members of a society get determines the quality of the society they live in.

World Declaration on Education for All encompasses that the aim is universalizing access to education for all children, youth and adults, focus should be on learning, it should broaden the means and scope of basic education, enhancing the environment for learning, strengthen partnerships and promoting equity (WHO, 2011).

As it is declared in the above declaration, education systems should be able to contribute to a creating a more equal, inclusive and socially just world. Unfortunately, the recent education reforms in most countries from the US to Turkey are part of a larger and pre-planned effort by some international organizations, corporate and political ideology to transform the nature of society by abrogating the social democratic policies.

Inclusive education has become one of the hot topics in both educational research and practices and in education policy, reform and agendas of many countries (Ainscow, et al., 2006; Echeita and Ainscow, 2011; Muntaner, et al., 2016).

During the policy development of inclusive education, numerous steps have been taken to summarize the right to inclusion for all students by including all stakeholders (UNESCO 1994, 2008).

There are different views and approaches of inclusion to promote inclusive education. Some consider it as a matter of substituting the former term 'integration' for inclusion. This kind of approach usually focuses on traditional procedures to meet the needs of students with difficulties of any kind in general education classrooms (Nilholm and Göransson, 2017). However, simply defining inclusive education by a location or a arranging some practices is problematic because such a definition can easily be impacted by differentiations in educational practice, context, culture and factors that might quickly impart these aspects inappropriate and even outdated (Forlin et al., 2013). Therefore, it is important not only to take practices that promote inclusive education into consideration, but also the underlying theoretical aspects that define inclusion in schools as well as in communities.

For example, Ainscow, et al. (2006) summarized the conceptualizations in six main categories: (a) inclusion as concerned with disability and 'special educational needs' (SEN), (b) inclusion as a response to disciplinary exclusions, (c) inclusion as about all groups vulnerable to exclusion, (d) inclusion as the promotion of the school for all, (e) inclusion as 'Education for All', and (f) inclusion as a principled approach to education and society. These categories are not mutually exclusive; instead they reflect the main

positions usually considered to address the topic (Messiou, 2017). UNESCO (2008) also describes the key factors of inclusive education for all students: (a) promoting student participation and reducing exclusion from and for education; (b) the presence, participation and achievement of all students, but especially of those who are excluded or at risk of marginalization. As a result, inclusive education becomes a matter of adopting a socio-cultural approach regarding the interactions between students' capabilities and environmental demands, underlying the importance of educational systems adapting all these and reaching at all students (Echeita et al., 2017; Nilholm and Göransson, 2017).

Some other educators such as, Booth and Ainscow (2011) point out the importance of adjusting inclusive policies, culture, and practices with present barriers to learning and participation.

In addition to students with disabilities or other forms of diversity being present, inclusion also means that these students together with other students in general education settings having the same opportunities of receiving general education with appropriate supports (Kurth and Gross, 2014; Nilholm and Göransson, 2017). In this context, the general education curriculum involves both academic content as well as other social content, including participation in extra-curricular and other school and community activities. In this sense, inclusive education provides a means to move beyond traditional, generally deficit-based conceptualizations of students with disabilities and other forms of diversity and move toward a more comprehensive approach to meet the needs of all students (Shogren, et al., 2017).

The inclusion of students with disabilities in general education contexts has become a worldwide movement over the last few decades as result of some reports such as, The Warnock's Report (1978), The World Declaration on Education for All (1990), The Salamanca Statement and Framework for Action on Special Needs Education (1994), The Dakar Framework for Action (2000), and the 48th International Conference on Education by UNESCO (2008). One of the latest decisions was reached in 2006 with the Convention on the Rights of Persons with Disabilities (CRPD). The CRPD included Article 24 which guaranteed that signing nations must ensure students with disabilities 'are not excluded from the general education system on the basis of disability' and 'receive the support required, within the general education system to facilitate their effective education' (UN, 2006).

As a result of these reports, inclusive education used to mean a process that involves the transformation of schools and other organizations of learning to nurture for all children – including boys and girls, students from ethnic and linguistic minorities, rural populations, those affected by HIV and AIDS, and those with disabilities and difficulties in learning, those with alternative preferences, LGBT and to provide learning opportunities for all youth and adults as well. The aim is to eliminate any type of exclusion that is a consequence of negative attitudes and a lack of response to diversity in race, economic status, social class, ethnicity, language, religion, gender, sexual orientation and ability (WHO, 2001).

According to the World Report on Disability approximately one billion people in the world are living with a disability, with at least 1 in 10 being children and 80% living in developing countries (WHO, 2011). It is highly difficult for children with disabilities to start school and if they do so, they are unlikely to transition to secondary school and further. Access to school for children with disabilities is often limited by some reasons; lack of understanding what their needs are, lack of trained teachers, and lack of classroom support including learning resources and facilities. Two hundred million out of one billion experience considerable difficulties in functioning. And it is estimated that in the years ahead, disability will be an even greater concern because its prevalence is on the rise.

According to the same report, over a billion people, about 15% of the world's population has some form of disability and between 110 million and 190 million adults have significant difficulties in functioning. Rates of disability are increasing due to population ageing and increases in chronic health conditions, among other causes. People with disabilities have less access to health care services and therefore experience unmet health care needs (WHO, 2011).

The International Classification of Functioning, Disability and Health (ICF) advanced the understanding and measurement of disability (WHO, 2001). This measurement was developed through a long process involving academics, clinicians, and – importantly – persons with disabilities (Bickenbach et al., 1999).

The ICF emphasizes environmental factors in creating disability, which is the main difference between this new classification and the previous International Classification of Impairments, Disabilities, and Handicaps (ICIDH). In the ICF, problems with human functioning are categorized in three interconnected areas:

- Impairments are problems in body function or alterations in body structure – for example, paralysis or blindness;
- Activity limitations are difficulties in executing activities – for example, walking or eating;
- Participation restrictions are problems with involvement in any area of life – for example, facing discrimination in employment or transportation (WHO, 2001).

According to the report, disability refers to difficulties encountered in any or all three areas of functioning. The ICF can also be used to understand and measure the positive aspects of functioning such as body functions, activities, participation and environmental facilitation. The ICF adopts neutral language and does not distinguish between the type and cause of disability – for instance, between "physical" and "mental" health. "Health conditions" are diseases, injuries, and disorders, while "impairments" are specific decrements in body functions and structures, often identified as symptoms or signs of health conditions (WHO, 2001:5).

2. Extrability: The Brain and its Capabilities

Are so called disabled people really disabled or? The brain adapts to the loss by giving itself a makeover. If one sense is lost, the areas of the brain normally devoted to handling that sensory information does not go unused — they get rewired and put to work processing other senses. A new study provides evidence of this rewiring in the brains of deaf people (Bryner, 2012).

Can senses really be improved? We usually take seeing as granted, because of this tendency, one may feel less confident about one's other senses when one can't depend upon vision in the way one is used to. In time, and with training, we can learn to make maximum use of all our senses — touch, hearing, smell, and any remaining vision — as well as improve our visual memory. That is what blind individuals usually develop and reach the extrability level. Extrability is defined as "*additional human abilities – tactile, associative, strategic, and spatial thinking*" (www.extrability.org)

White Cane Organization in Russian Federation conducts a study of the phenomenon of EXTRABILITY (additional human abilities – tactile, associative, strategic, and spatial thinking). The organization studies the phenomenon in their Laboratory of inclusive gaming technologies. It is a very unique way of looking disability and inclusiveness. The only information related to this idea can be found in their web site. Therefore, everything related to extrability is taken from their web page.

Extrability (from extra and ability) – is used for additional abilities that develop in a person with a disability due to adaptation to life with disabilities. The features of these abilities are not in demand in a person's life without disability, but due to the development of extrability, people with disabilities are qualitatively adapted to life and thus improve their quality of life. Extrability is a combination of unique abilities and skills that act as a competitive advantage for people with disabilities. The use and development of extrability in professional activities allows people with disabilities to occupy a competitive niche in the open market.

The development of extrability is based on a sense of inner dignity, mutual respect and value of experience in overcoming crisis situations. People with disabilities, who have actualized such abilities, first experienced a deep psychological crisis, but emerged victorious. The concept of extrability is based on the idea that a person has physical changes that lead to psychological, social and cultural changes. Moreover, the owners of extrability say that without disability, they would not be able to achieve such results.

People who are blind really do have enhanced abilities in their other senses, according to a new, small study where detailed brain scans of people who were blind are to the brains of people who were not blind. The study involved people who were either born blind or became blind before age 3. The scans showed that these individuals had heightened senses of hearing, smell and touch compared to the people in the study who were not blind (Miller, 2017).

Human brains normally suppress echoes, but they can use the sounds to echolocate in some situations. Blind humans have been known to use echolocation to

"see" their environment, but even sighted people can learn the skill, a new study finds (Lewis, 2013).

These findings are part of the growing research on neuroplasticity, the ability and power of our brains to change with experience. A quite large body of evidence shows once the brain is unable to get input in one sensory modality, it is capable of reorganizing itself to support and improve other senses, a development known as cross-modal neuroplasticity (Bates, 2012). Understanding how the brain rewires itself once a sense is lost has implications not only for the rehabilitation of deaf and blind individuals, but also for understanding when and how the brain is in a position to transform itself (Bates, 2012).

It's an often told that blind people can compensate for their lack of sight with enhanced hearing or other abilities and even can think in 3D. The musical talents of some famous blind musicians, such as Stevie Wonder and Ray Charles, who were both blinded at an early age, are cited as examples of blindness creating an advantage in other areas (Ho, 2011). It is commonly assumed that the improvement in the remaining senses is a result of learned behavior. In the absence of vision, for example, blind people usually pay more attention to auditory clues and learn how to use them more efficiently (Bates, 2012). But there is a lot of evidence that people missing one sense don't just learn to use the others better. The brain adapts to the loss by giving itself a makeover. That is the brain rewires itself to boost the remaining senses. If one sense is lost, the areas of the brain normally responsible of handling that sensory information do not just go unused, instead they get rewired and put to work processing other senses (Bates, 2012).

People who are blind really do have enhanced abilities in their other senses, according to a new, small study. The scans showed that these individuals had heightened senses of hearing, smell and touch compared to the people in the study who were not blind (Miller, 2017). It is true that most blind people become more attuned to sounds after losing their sight. Humans naturally compensate by relying on their other senses, and hearing is one of the primary senses after sight. However, being blind does not automatically make them better at hearing (https://www.signia-hearing.com/blog/do-blind-people-have-a-better-hearing/). There are numerous studies designed to test the hypothesis that blind people have better memory than sighted individuals for auditory verbal material and specifically to determine whether memory encoding and/or retrieval are improved in blind adults (Roeder, 2001). A new study from the University of Montreal found that blind people have no keener sense of smell than the sighted. Vision loss simply makes blind people pay more attention to how they perceive smells, the researchers said. ... "*That smell will therefore become very important for their spatial representation*" (LSS, 2010).

Another recent study for example provides evidence of this rewiring in the brains of deaf people. The study, published in The Journal of Neuroscience, shows people who are born deaf use areas of the brain typically devoted to processing sound to instead process touch and vision. Perhaps more interestingly, the researchers found this neural

reorganization affects how deaf individuals perceive sensory stimuli, making them susceptible to a perceptual illusion that hearing people do not experience (Bates, 2012).

Talented deaf individuals in many areas in the work place are working to defy social expectations, remove barriers, and prove that there are no limits to what people who are deaf can do. Such deaf individuals deserve every opportunity to realize their own destiny and accomplish their own goals without suffering the prejudice of previous generations (Callis, 2016). For example, deaf people are natural communicators since they have taught themselves how to communicate with the world around them since birth. Because of this, they are excellent actors. Sign language also enforces the speaker to be honest. They can connect with all different people and they can use multiple modes of communication. That is extrability. Nowadays it became very common to see such talented deaf/blind individuals at universities. It's time for people to open their minds to the endless potential of our diverse population.

It is estimated that there were 36 million people who were blind (Bourne, et al., 2017). Therefore, it is not surprising that numerous approaches and potential solutions designed to overcome these difficulties have been put forward to help the visually impaired. However, while the use such of compensation devices, e.g. highly sensitive hearing aids, volume enhancing devices and cochlear implants has already greatly improved the lives of many auditorily impaired, compensation and technological aids for the visually-impaired are currently much less effective (Jorgensen and Messersmith, 2015). The most commonly used rehabilitation techniques for blindness so far are sensory aids such as the Braille reading system, mobility aids such as canes, or more contemporary devices such as obstacle detectors, laser canes or ultrasonic echolocating devices (Khan, et al., 2018). All of these devices derive from the idea that the blind are deprived of numerous important types of information typically transferred through vision and each attempts to supply one such information type through other sensory systems. The findings indicate that the blind, once they learn to deal with the available sensory modalities, can show comparable or superior performance in many tasks when compared to the sighted. This advantage can even be compromised by the presence of visual information, as indicated by inferior performance of the partially blind (Lessard, et al., 1998). This is exactly what is meant by extrability.

The brain can translate the senses into one another. And this is called sensory substitution. And in fact, this is a true example of how the brain can be neuroplastic. Our sight cortex covers the 40% of our brains; however, this part does not function in blind individuals (Silva, et al., 2018). Scientists, who discovered the principle of sensory substitution, can create specifically designed device(s) which can help the sight cortex process the touch data. This can help blind to see via touching. Neuroscientist Eagleman and his teams' project VEST is one of them. Eagleman thinks there should be more to human sensory perception than sight, sound, touch, smell and taste (Keller, 2018). He foresees a future in which humans could develop new "senses" for all sorts of information, using wearable technology to feed data to the brain. His groundbreaking sensory augmentation device, the Versatile Extra-Sensory Transducer (VEST) is a device

consisting of 32 vibrating motors that users wear around their torso, just like a sartorial vest. The VEST can take in diverse types of real-time data—from sound waves to help the deaf to a flight status, even stock market trends—and translates this data into dynamic patterns of vibration in the motors. With just a few weeks of training, users can learn to associate the patterns with specific inputs—the sound of a letter or news of a particular stock appreciating (Keller, 2018).

The versatility and plasticity of the brain make it fundamentally receptive to forming new pathways of sensory input and we owe this to the neuroplasticity of the brain (Nau, et al., 2015). However, whether one can understand speech with this kind of sensory substitution in a way that would be natural for people is not well proven. Can a blind person really make a remapping between very complex speech sounds that people want to do in an everyday environment? Kunze cited in Keller (2018) who specializes in sensory augmentation wearable technology, also has some similar doubts. He believes that vibration patterns alone might not be enough for the deaf to be able to classify the complexities of natural speech and sound. We need further research on this concern (Keller, 2018).

2. The Theory of Multiple Intelligences

19th century IQ focused traditional view of mind and intelligence slowly evolved to keep up with the insights provided by advances in neuroscience in the last a few decades. In 1983, Howard Gardner proposed the Theory of Multiple Intelligences (MI), though he has continued to revise his theory over the years. He felt that the traditional concept of intelligence was incomplete and instead proposed a variety of different types of intelligence.

Theory of multiple intelligences claims a plurality of intelligences, each with its own symbol system and ways of knowing and processing information. No intelligence is more important than the other. Each should be treated and nurtured equally. This is in a very significant contrast to the traditional view of intelligence, which asserts the existence of just one general intelligence that is put to use to solve any problem, no matter what the task or domain.

MI theory advocates that intelligence originates biologically (Gardner, 1983). The eight intelligences have been identified across all known cultures. As human beings, we all have the potential in all of the intelligences. Indeed, this propensity might be considered a significant contributor to what makes us human. In practice, this feature reminds us that every student in every classroom brings to bear a collection of all eight intelligences, each to varying degrees of strength (Gardner, 1983).

Gardner's definition of Intelligence is based on real-world intelligence. The definition of the MI theory sets it apart from the conventional understanding of intelligence: *"Intelligence is a biopsychological potential to process information that can be activated in a cultural setting to solve problems or create products that are of value in a culture"* (Gardner, 1999:33-34). The definition of the MI theory locates intelligence in real—world

problem solving and product making and accounts for the cultural dimension of what counts as intelligence. In contrast to the "*implied and long lasting traditional*" view of intelligence of IQ tests, MI theory is based on an understanding of how individuals' intelligences really operate. As a constant interaction among biological and environmental factors, it is claimed that intelligences are educable; they can change and grow. According to MI theory, the more time an individual spends using an intelligence and the better the instruction and resources, the smarter the individual becomes in that area.

Although MI theory claims biological basis for intelligence, it does not suggest that intelligence is purely genetic and inherited. From the perspective of ''nature" in the nature-nurture debate, we possess all the intelligences. How and to what extent the intelligences manifest themselves depend to a significant degree on nurture. Individual's intelligences develop and change based on interaction with the environment (people, resources, ecosystem etc.). Cultural, societal, and individual factors shape how much one sees of a particular intelligence and how it is manifested.

Intelligences definitely work in combination, not isolation as it is viewed in classical view of intelligence. In the form of context biopsychological potential, the intelligence is relatively autonomous. In their expression, however, the intelligence work together in the context of a domain or a discipline, which are social constructs. A domain is culturally organized and valued act ivy "*in which individuals participate on more than just a casual basis, and in which degrees of expertise can be identified and nurtured*" (Gardner, 1999: 82). The intelligences are the raw material we bring to bear in solving problem or fashion products. The domain or discipline is the context that defines the problem and within which intelligences are brought together and no intelligence is isolated to a specific domain.

The key premise of Gardner's theory is that each type of intelligence is present in each individual but in varying degrees and can be nurtured and developed. Dominant intelligences in individuals are not fixed and could change in time. Intelligence plays a powerful role in the educational system. However, the measurement of intelligence is only useful if it helps improve instruction (Bordelon & Banbury, 2005).

The theory of MI provides nine areas of human intellectual development which we all have in greater or lesser degrees individually. Briefly the nine areas of the multiple intelligences according to Gardner's theory are:

- Visual – Spatial intelligence (skilled with images, spatial judgment, and/or puzzles)
- Verbal – Linguistic intelligence (skilled with words and language)
- Logical – Mathematical intelligence (skilled with logic, reasoning, and/or numbers)
- Bodily – Kinesthetic intelligence (skilled at controlling bodily motion such as sports, dance, etc.)
- Musical – Rhythmic intelligence (skilled with sound, rhythm, tone and music)
- Intra-Personal intelligence (skilled at self-knowledge, reflection, etc.)

- Inter-Personal Intelligence (skilled at communicating with others/relating to others)
- Naturalist intelligence (skilled at understanding/relating to the natural world)
- Spiritual intelligence (skilled at placing our actions and our lives in a wider, richer, meaning-giving context, the intelligence with which we can assess that one course of action or one life-path is more meaningful than another) (Gardner, 1999).

In addition to the nine intelligences, Altan (1999, 2001, 2010, and 2017) proposes moral intelligence. In "Intelligence Reframed: Multiple Intelligences for the 21st century," Gardner warned us that the most important task in the new millennium will not be to bring our various intelligences together and use them properly, but figure out how intelligence and morality can work together to create a better world (Gardner, 1999).

Education systems managed to produce a lot of smart people (leaders, politicians, army commanders, businessmen, academicians, scientists, etc.) with high levels of verbal and mathematical intelligences, i.e. IQ who lacked moral values and as a result they caused and continue causing other people suffer all over the world. These people had all the intelligences in their profiles especially; the ones highly regarded in present education systems and mainstream cultures around the world, Verbal/Linguistic and Logical/Mathematical. What was lacking was the moral intelligence (Altan, 2010).

Many philosophers also view moral intelligence as a vital and important part of human nature (Hume, 1975). In our current society and educational systems, its importance and necessity grow. However, issues of democracy, global justice, environment, human rights and citizenship, nepotism, social justice, biased perspectives of ethnocentrism, national chauvinism are, for the most part, not major components of the curriculum in K-12 schools and are given not if not very little attention in teacher education programs (Altan, 2017).

It is not possible to raise individuals with high level of virtues, respectful to basic human rights, freedom of speech, choice and belief systems, law of order and democracy by just nurturing their Linguistic and Mathematical intelligences. Therefore, moral intelligence, as in the case of other intelligences, should be activated and taught with very well planned activities so that individuals can become more aware of their potential of moral intelligence and develop it if they have less developed level of this intelligence (Altan, 2010).

Altan defines moral intelligence as "*the ability to differ the good from the bad and the right from the wrong; to have strong ethical faith and to act on them to behave in the right and honorable way; to accept and implement the rules of democracy, law of order, freedom of speech, freedom of belief systems or choice and basic human rights, and respect the environment, etc.*" (2017:2013).

Since it is known that morality can be explained by feelings rather than thoughts (Hume, 1975), it is a must that human beings should put not only thought-related intelligences into action but also those related to our senses in order to solve ever growing global issues. Moral intelligence can be the source of compassion and it is clear that individuals lacking or not having certain level of moral intelligence would be not enough

to help humanity no matter how developed logical and verbal intelligence level they have (Boss, 1994)

All learners have varied strengths and weaknesses by increasing awareness for individuals about the different ways in which they learn as well as how they prefer to learn, educators can aid them in metacognitive abilities so that they are motivated to learn. By doing so, individuals can become higher achievers when their education settings allow them to use their undiscovered intelligences, abilities subsequently, the learners' individuality and learning experience become more pleasant and obvious resulting in happiness ne success.

Each of the multiple intelligences can serve as kind of "delivery routes" to personalize important cognitive and emotional processes underlying learning such as attention, memory, motivation, creative cognition, problem solving. Therefore, the theory of multiple intelligences can be integrated into the classroom teaching of all subject areas by preparing specific intelligence-based lessons for the course taught. The idea is to adapt the theme to suit the intelligences of three or four intelligence-based types of learners in a class group (Armstrong, 2017; Kornhaber, et al., 2004).

Since students are not born with identical intellectual abilities and therefore, their various forms of intelligences should not be evaluated by standardized tests. However, in many countries the only focus on measuring knowledge is just on one way; this should not be the case and should be stopped. Individuals have different degrees of intellectual strengths and therefore should not be assessed on solely one form of intelligence through standardized testing (Altan, 2014).

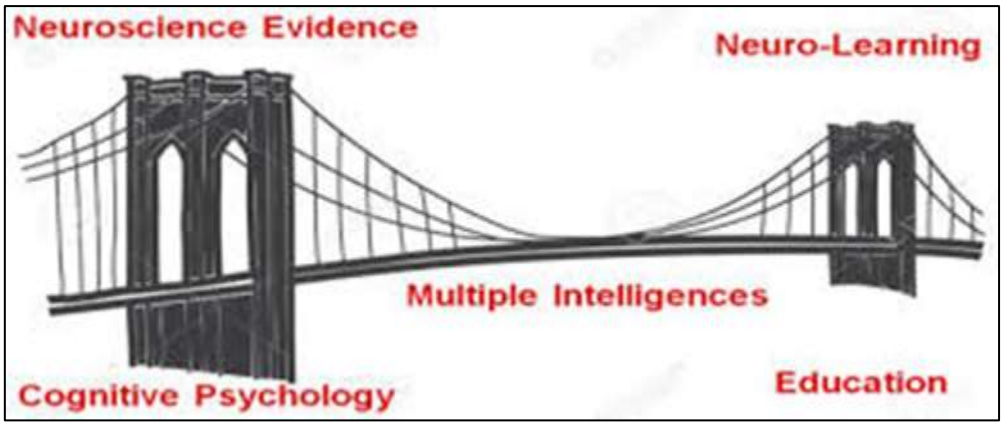

Figure 1: The Theory of Multiple Intelligences and Education (source: Shearer, 2018)

Current education practices generally focus on academic success and are usually evaluated by centralized and standardizing high-stake standardized tests or school-based tests. Both types of the tests are based on verbal/linguistic and mathematical/logical intelligences which mainly focus on the functions of the left brain and left brain focused skills and forces all individuals to put on the same size. Therefore, such tests never help individuals to question, think, take risks, think critically, ethically, morally, be creative, patient, conscientious and merciful which are necessary and vital of having an

entrepreneurial mind-set and as a result become an entrepreneur (Altan, 2014, Altan, et al., 2014).

Billions of school-age children all over the world and of that number, over 10% are diagnosed with a learning disability and are receiving special education services (globalpartnership.org). And it is a known fact that common educational practices affect students with learning disabilities who usually do not meet the assessment criteria of so-called standardized exams mandated by education systems. Increasing focus on high-stakes testing accountability has compelled teachers to search for effective ways to reach students classified with a learning disability or enrolled in special education programs, and the methods usually include in general education classrooms. Gardner's (Gardner, 1983) theory of MI implies that educators should recognize and teach to a broader range of talents and skills, further suggesting that teachers should structure the presentation of material in a style that engages most or all of the intelligences. Gardner's (ibid) MI theory not only helps educators' understanding that students learn differently, but also to supports the success of differentiated instruction. The belief is that using MI to differentiate instruction will ultimately assist teachers to accommodate the learning needs of all students and students' individual differences.

When students are able to recognize different kinds of intelligence within themselves, they will be able to achieve at higher levels. Teaching with MI philosophy will enable the teachers to learn the abilities and interests of the students. Learning the individual interest and intelligences of the students will in return enable the teachers to create an environment where students demonstrate a better learning connection with the content. Additionally, using the MI approach will also foster personal autonomy, responsibility, and empowerment among the students and eventually create a better and more democratic society where individual differences are all nurtured and valued (Altan, 2017; UNESCO, 2009).

Transforming the present educational systems require a real paradigm shift which will change the culture and practice in educational settings at all levels. The transformation will move away the educational system from left brain dominant, IQ focused and memory-based learning, designed for the average students to an education, which stimulates thinking, creativity and caring in all students, caters to individual differences and is based on more equitable access. Altan (2019a) calls this as entrepreneurial teaching. Therefore, entrepreneurially focused extrability 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 a full inclusive society.

4. Segregation within Inclusion

How about some real differences based on individual differences in learning? What types of students are generally nurtured and advantageous in present education systems? Is it

possible to call an education system inclusive which does not consider individual differences in learning and is not designed accordingly?

Can we call an educational system inclusive based on traditional view of intelligence as a unitary trait focusing on the measurability and the heritability of intelligence?

Above questions and concerns are very important while talking about inclusion and creating an inclusive education program or system. Inclusive education is not and should not be a marginal issue. Instead, it should be considered as central to the achievement of high-quality education for all learners and the development of more inclusive and happier societies.

Inclusive education systems can only be created if ordinary schools become more inclusive – in other words, if they become better at educating all children by nurturing all individual differences in their communities.

Placing students in schools or educational settings with their similar-aged peers do not guarantee that students' individual needs are equally met. Most present education systems and philosophies limit their students' ability to fully access or participate in learning. Therefore, so called integration is not necessarily a step towards inclusion.

5. Solution

First of all, it is important that people get equal opportunity in society, regardless of their background, race, sexuality, gender, physical problems, individual differences and ethnicity and so on. Secondly, rewards should be distributed fairly based on integrity and thirdly, people should get equal outcomes without considering the circumstances.

My vision of inclusive education system is a consolidated system for public education that adjusts and facilitates numerous changes to present school system which revolves around segregating individuals and a very strong common focus on student success based on traditional view of intelligence composed of linguistic/mathematical intelligence and focused on the functions of the left brain.

The model builds student and system strength by tracking progress and nurturing collaboration. It is designed to build the capacity of our school system to support the success of all students with all types of individual differences. Helping all students with all types of individual differences and diversity both physical and physiological, reach their full potential should be both the promise and the challenge of inclusive education.

Over the past few decades great strides have been made on the philosophy of inclusive education. Some progresses have been succeeded which helped us to go from exclusion and segregation to integration and inclusion. While today's schools are more welcoming and accepting of diversity, too many students are not reaching their full potential and the system is under considerable strain mainly due to the traditional view of intelligence and its widely used assessment techniques. This must change to create a real inclusive education system. This must change to create a real inclusive education system (Altan, 2019b).

The way forward begins with actualizing a new philosophy and model of inclusive education, one that supports teaching, learning, and the success of all students with all different profiles of intelligence long with all learning differences. The only barrier in front of the progress seems to be the lack of clarity and consistency in how inclusive education is defined and implemented (Konza, 2008).

The educational challenge facing many nations worldwide is not that schools are not doing jobs well rather, schools are not helping the majority of young people reach levels of skill and competence to live a decent life supporting a just and civil society that helps them to maintain a sustainable and responsible democratic life (UNESCO, 2014).

What should an Inclusive education model include? A quality Inclusive system:

- Should be the right of all students with all profiles of intelligences and learning differences along with other physical, physiological and sexual orientation differences.
- Should be learning-centered and needs-based unique approach providing educational programs and services to all students through a collaborative and future orientation.
- Should help all students reach their full potential. This should be both the promise and the challenge of inclusive education. Although previous models promised to be inclusive, they excluded and segregated by disregarding certain intelligence types and individual differences where too many students could not reach their full potentials.
- Should be a multi-tiered continuum of programs, services, and settings that goes beyond the confines of traditional student placements and programs to provide all students—including students with special needs—with assessment, instruction, interventions, and learning spaces tailored to profiles of intelligences, individual differences and needs.
- Should provide positive learning environments that facilitate the full membership, participation, and learning of all students.
- Should be based on core values and beliefs that uphold the best interests of students in educational decisions.
- Should promote equitable student access to educational programs and services; and respect and value diversity in school communities.
- Should have evidence-based policies, practices, and procedures that support the success of all students; and
- Should have a commitment to excellence in teaching, learning, and leadership that facilitates and empowers all students to reach their full potential as learners.

Having an understanding of different teaching along with a variety of ways to present content to students, is very valuable for increasing the accessibility of learning experiences for all students at every level. Such an understanding is especially important to gather ongoing information about student strengths and challenges as well as their developing interests and activities they dislike. Providing different contexts for students and engaging a variety of their senses for example, learning about fractions through

different domains like musical, natural and verbal intelligences could be a typical example for extrability and as a result for a real inclusive education.

5. Extrability, Multiple Intelligences and Assessment

Alternative assessment is a form of student performance grading that allows for a more holistic approach to student assessment. With alternative assessments, students are enabled to provide their own responses rather than simply selecting from a given list of options. They provide a means of assessing valued skills that cannot be directly assessed with traditional tests. They provide a more realistic setting for student performance than traditional tests. They focus on student performance and the quality of work performed by students. Alternative assessments are used to evaluate the performance of students who are unable to participate in general local and centrally made so called standard exams or tests. Alternative assessments based on alternative achievement standards can easily be for students with the most significant cognitive disabilities (TeAchnology, Inc.).

Alternatives to standardized assessment have been referred to in the literature in many ways: alternative assessment, authentic assessment, or performance-based assessment. According to Hamayan (1995) "*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*" (p.213). 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.

Assessment should be multimodal, tapping not only one context but several. Assessments influence the identification, classification, placement, and ongoing monitoring of students (McLaughlin & Vogt, 1996). Present assessment practices, mainly so called standardized (standardizing), left brain dominant, mathematical and linguistics intelligences-focused, are not designed for/with the diversity of today's population and to meet the needs of 21st century skills. It is obvious that present assessment practices kill all entrepreneurial skills (Altan, 2019a).

Alternative assessment procedures and techniques which can be used within the context of instruction can be easily incorporated into daily activities in the classrooms. Education systems need to shift from traditional assessment to alternative Assessment. My philosophy is supporting the movement which calls for a shift from traditional assessment to alternative assessment practices (Perrone, 1991; Sulaiman, et al. 2011). Such a shift involves a reconceptualization of how learning occurs and what learners are supposed to do with the things they have learned.

Some of the alternative assessment techniques can be listed as; 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, impromptu speeches and, simulations (Altan, 2014, 2019a).

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 (Darling- Hammond, et al. 2019). Individuals bring a huge variety of skills, needs, and interests to learning. As a result, curricula, that is educational goals, methods, materials, and assessment should be designed to enable all individuals to gain knowledge, skills, and enthusiasm for learning where everybody is nourished and honored equally and reached to their extrabilities.

Assessment polices have significant influence over the education in general at levels since they influence the identification, classification, placement, and ongoing monitoring of students (OECD, 2013). Assessment results shape teachers' beliefs about student abilities and the quality of instruction offered to them. However, assessment practices were not designed with the diversity and full potentials of learners in mind. As a result, assessment practices have sometimes prevented individuals from gaining access to a high-quality education and reach to their full potentials (OECD, 2008). We have more than enough both local and nationwide tests, however learners' abilities and skills have not been adequately assessed since traditional testing practices do not capture all that they know and can do. Neither local and nationwide nor international assessment programs provide adequate data on the academic progress and profiles of leaners.

6. Conclusions

Inclusive education is not a program. It is an educational philosophy that values the participation and education of students with and without disabilities in the same classroom where all students are nurtured equally.

Inclusion will definitely not work unless the philosophy behind it does not change. Teacher educators should be able to prepare the teachers, state administrators should be able to accept the notion, schools must have the right attitude, an abundant support system should be able to help the schools and an appropriate professional teacher training should be designed to meet the needs of the teachers.

Inclusion will be successful when teachers are trained and prepared to teach in classrooms that are inclusive. Teachers must be equipped with the knowledge and tools to cultivate a welcoming, safe environment, identify student needs, use research-based instructional strategies to teach diverse learners, and assess individual progress.

Having an understanding of different teaching along with a variety of ways to present content to students, is very valuable for increasing the accessibility of learning experiences for all students at every level. Such an understanding is especially important to gather ongoing information about student strengths and challenges as well as their developing interests and activities they dislike. Providing different contexts for students

and engaging a variety of their senses -- for example, learning about fractions through musical notes, flower petals, and poetic meter -- is a typical example for extrability and as a result for a real inclusive education. Providing students with multiple ways to access content, demonstrate knowledge and skills will surely increase engagement and learning. This will also provide teachers with more accurate understanding of students' knowledge and skills (Darling-Hammond, 2010; Hattie, 2011).

Self-leadership for life-long learning is the concluding goal for an individual's education adventure that is cultivating the knowledge that one has valuable intellectual talents that can be developed and used to contribute meaningfully to one's community. The multiple intelligences perspective contributes to this vision and goal perfectly. Understanding and seeing how education can create and develop intrapersonal intelligence takes us back to the fundamental combination of the self within a context and a culture one lives.

Hatch and Gardner (1990:428) stated that "*It would be a great idea to imagine an education system that does not depend on tests which are standardizing everybody and fit everybody into one size instead utilizes a variety including and nurturing everybody by engaging and assessing the abilities of each individual*".

The more we learn about the brain and its working the more different approaches to teaching that are more various and creative than traditional ones have been practiced in last two centuries. Therefore, our insatiable curiosity about the learning process persists and studies continue to evolve, scientific research may emerge that further elaborates on multiple intelligences, learning styles, or perhaps another theory, such as extrability.

About the Author

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