DEVELOPING SUSTAINABILITY MINDSETS – EFFECTS OF MEDITATIVE PRACTICES ON SUSTAINABLE EDUCATION

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Abstract

In 2015 a set of goals to end poverty, protect the planet and ensure prosperity were made. Obtaining a quality education is considered the foundation for improving people's lives and a sustainable development. A sustainable mindset is described as a way of thinking and being, resulting from a broad understanding, an introspective focus and finds its expression in actions for the greater good of the whole.

The classical approaches to build such a sustainable mindset through the introduction of related knowledge in the educational system at all different stages show little evidence to be successful in reaching that goal. Cognitive understanding is not sufficient. Emotional engagement and passionate commitment are also necessary factors for a change of behavior and values.

The basis to master thyself and thy life is to know thyself - thy strengths and weaknesses. A traditional concept of knowing thyself and finding balance is meditation. Recently this ancient concept has risen to more and more popularity. To the researcher's knowledge Sahaja Yoga Meditation is the only meditation practice that has shown machine measurable effects of a long-lasting kind, like the grow of grey matter cells in the brain, which shows a strong effect of the meditation which cannot be explained by psychological placebo effects. Recently behavioral change towards a sustainability decision making has been shown.

Presently India is giving a lot of emphasis on Yoga and Meditation programs. Indian government has initiated different ministries for yoga and meditation to bring the awareness on the benefits of it and encouraging the research in this field. The aim of this paper is to review the existing literature on the meditation and its effects on different factors and how meditative practices can lead to sustainability.

Keywords: *sustainable development, sustainable mindset, education, meditation*

1. INTRODUCTION

Everybody lives in her or his own world. The way one person perceives, understand and act in a situation is peculiar different from the way other person would do in the same or a similar situation (Maslow, 1943) [1]. It differs from the way our mind is set. It differs from the way how we perceive and construct the world, our world, how we believe it functions, what motives we think the other people have, what motives we have, knowingly or unknowingly, what we believe where and who we are, what our strengths and weaknesses are, what we consider important in life. These concepts that we have built up since we were born and that we have sophisticated ever since, determine what we see, think, talk and do a much deeper level, than we are aware off. Sometimes we act out of a cognitive, mental reasoning (Birch and Bloom, 2004; Blasi, 1983) [2]. Then according to our understanding, this explanation of our action in a situation seems logic and reasonable. Sometimes we act out of emotional reasons. Sometimes we follow our intuition.

Surprisingly, or not, there are patterns in the way we perceive and act (Wolfgang, 1992). [3] For example, people from one country tend to be a little bit different to people from another country or scientists seem to be different from other workers. The business world and the marketing department have discovered clusters of people and try to create products and advertising messages that appeal and effect specifically to their intended target groups (Rosenfeld, 1997). [4] Human resource departments of established companies want to know what kind of employee they are going to hire (Turban and Keon,

1993) [5] and the applicants have to go through a test from which the human resource department wants to get some insights (Ulrich, 1997). [6]

The Allegory of the Cave, or Plato's Cave, was presented by the Greek philosopher Plato in his work Republic (514a–520a). [7] There he describes in the "Allegory of the cave" a setting where prisoners are kept from childhood in an illusionary world. Here Socrates says "compare our (human) nature in respect of education and its lack to such an experience as this". The guards create a shadow play for the prisoners. As this play of the shadows is the only thing they perceive and they know of the world, they make theories about certain figures, what is their nature and how they interact with other figures. For the prisoners these shadows on the wall constitute their world. One day a prisoner manages to escape, he discovers that the shadows were only projections and the world is different to what they used to think. Then the evader decides to go back into the prison, but his view of the world and its interdependences and interactions has changed forever. Sometimes we discover that the world is not like we thought it is.

2. CONCEPT OF SUSTAINABILITY

Apollo 8 was the first manned spacecraft to travel beyond low Earth orbit and to see the Earth as a whole planet from the Moons orbit. The picture (Figure1) called "Earthrise" taken by an astronaut on the 24th December, 1968 changed the view of humanity on their planet forever (Cosgrove, 1994). [8] It was plain to see for everybody – the earth as a small (half-) ball surrounded by black darkness. This was the first time that humans had taken such a picture whilst actually behind the camera, and it has been credited with a role in inspiring the first Earth Day in 1970. It was selected as the first of *Life* magazine's "100 Photographs That Changed the World".



Fig. 1. Earthrise (NASA AS8-14-2383).
Apollo 8 photograph of Earth taken from lunar orbit, December 1968.

Mankind slowly started realizing, that despite many differences amongst each other, every living person is living in the only habitable zone which is reachable. The idea began to rise that all social and economic subsystems are surrounded and embedded in a former seen as strong, but now perceived as weakening, environment; and that all social contracts, to increase general welfare and wellbeing, are not worth to be made, if they don´t consider the environmental questions that started rising up, more and more obvious to the general public.

Since the late 1970s a steady decline of ozone in the Earth´s stratosphere was observed (Stolarski, *et al., 1992*). [9] The ozone layer prevents most harmful UVB wavelengths of ultraviolet light (UV light) from passing through the Earth's atmosphere. These wavelengths cause skin cancer, sunburn, and cataracts.

In 1985 a hole in the ozone layer over the Antarctica was detected. Shortly after, in 1987, in the Montreal Protocol the production of CFCs, halons and other ozone-depleting chemicals were banned.

The United Nations´ Brundtland Report "Our Common Future", 1987 gave the first two definitions for Sustainable Development: 1. "Sustainable development is the development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains two key concepts within it:

- the concept of 'needs,' in particular the essential needs of the world's poor, to which overriding priority should be given; and
- the idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs."

This definition of intergenerational ecological justice (intergenerational fairness) is part of all subsequently agreed international environmental agreements.

2. "In essence, sustainable development is a process of change in which the exploitation of resources, the direction of investments, the orientation of technological development, and institutional changes are all in harmony and enhance both current and future potential to meet human needs and aspirations." This definition (Brundtland-Report p. 54) [10] is cited less frequently. It involves the demand for a holistic behavioral change, which therefore finds less political consensus.

More and more environmental and climatic challenges, like El Nino, earthquakes, hurricanes, rising sea levels, etc. appeared. Social conflicts, war- and economic refugees also showed the interdependencies and connectedness in today's globalized world. This led to a series of international agreements considering environmental issues on one hand and socio-economic issues on the other hand, starting with the United Nations Conference on the Environment and Development "Earth Summit" 1992 in Rio de Janeiro which brought forth the Agenda 21. The concepts were developed over the years, till in 2015 the "Paris Agreement" to keep global warming below 2 or 1.5 °C was negotiated and passed by the United Nations Climate Change Conference, COP 21 or CMP 11 and in the Sustainable Development Summit the "Sustainable Development Goals (SDG) / 2030 Agenda" were defined by the United Nations. (2015). [11]

According to SDG. by 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development (Goal 4.7, p. 19 UNESCO, 2030). [12]

Education is at the heart of the 2030 Agenda for Sustainable Development and essential for the success of all SDGs. Recognizing the important role of education, the 2030 Agenda for Sustainable Development highlights education as a stand-alone goal (SDG 4) and also includes targets on education under several other SDGs, notably those on health; growth and employment; sustainable consumption and production; and climate change. In fact, education can accelerate progress towards the achievement of all of the SDGs and therefore should be part of the strategies to achieve each of them. (p. 22)

The wellbeing of humans and the wellbeing of the ecosystem are equally important, and a sustainable society needs to achieve both together (Chhokar et al, 2004). [13]

Briefly it means, to meet the challenges of the future it is generally agreed that we, as the population of the world, have to change our behavior and therefore we have to change our mindsets. While in the past common mindsets included ideas of unlimited growth (world markets, technology, food, money [based on credits]), competitive markets (the fittest gets the maximum, losers get extinguished), unlimited resources (oil, fertilizers). To meet the present challenges like population growth, climate change, natural disasters, we must imbibe in the future sustainability mindsets, with ideas of limited resources (oil - 2050, fertilizers - 2050), sustainability concepts, considering the good for the whole, solidary markets as well as concepts of maintenance and reconsidering local value chains and small unit productions.

As it is said that it is hard to teach an old dog new tricks, there have been plenty of approaches to get the "need for a change"- message to the people. Even persons who are forerunners and deal with the sustainability concepts as part of their daily work like Prof. Paul Shrivastava, one of the five acknowledged thought leaders in the corporate sustainability academic community, find it almost impossible to put their knowledge into action. *"The more I know about sustainability the greater my eco-footprint grows. My cognitive and intellectual understanding of sustainability issues did little to make me lead a more sustainable life. If this were true for everyone, it would be a tragic irony for sustainability education. Cognitive or intellectual understanding is necessary for changing human behavior, but they are not sufficient. Behavior change requires, among other factors, emotional engagement and passionate commitment."* (Shrivastava, 2010). [14]

3. WHAT BOTHERS US, MOVES US - OUR STATE OF MIND

The knowledge about today and future challenges to humanity is now very wide spread, thanks to political activities and media resonance. But the needed behavior changes to stop the predicted and accepted future scenarios is still missing.

This is because the head knows and understands the message, but it is busy with something else, which seems at the short term perspective more important and the heart and the guts, have not only not heard the message yet, but are even not willing to listen, because they are busy with something completely different.

How does the mind work and how can we reach its optimal state of being? The first "two forces" of Psychology, the Freudian theory (1896) and Behaviorism were concepts based on psycho-pathology and mental-emotional-behavioral disorders. They are nowadays present in the general public mindset in the idea that to almost everything sex is the driving cause. And we see that Moscovici is right when he states that "concepts that operate at great depths seem to take over fifty years to penetrate the lowest layers of a scientific community" (Moscovici, 2001, p.10), [15] and even longer to penetrate a general public.

Abraham Maslow (1954) [16] created the "hierarchy of human needs" and started the "third force", the Humanistic Psychology, by examining what is really *right* with people and focused on psychological health by studying positive human qualities and the life of exemplary people. His hierarchy is often visualized in a pyramid and to most of the people common with his concepts the lower needs are better known. They describe the needs of a person for physiological, safety, love and belongingness as well as for esteem (confidence, respect) and are considered the opening keys for advertisement messages. Maslow described them as deficiency motives. What a human needs for a growth to reach his or her full potential as a being, he described as Self-Actualization. These aspects are less in the common focus as they are less easy to acquire: Morality, creativity, spontaneity, problem solving, lack of prejudice, acceptance of facts. They are also considered more noble and ideal attributes of an ideal person. At the level of self-actualization, the individual works to actualize its own potential. In his last work he added a higher layer to his pyramid, which he called "Transcendence" for describing persons, who put the own individual needs aside, to a great extent, in favor of service to others. This is called as the "fourth force" or Transpersonal Psychology which explores extreme wellness or optimal well-being.

Mihaly Csikszentmihalyi [17] was researching a state of consciousness that professional musicians, computer programmers and Top-sportsmen like Ayrton Senna or Pelé get into, which he called flow, also known as the zone. It describes a mental state of operation in which a person performing an activity is fully immersed in a feeling of energized focus, full involvement, and enjoyment in the process of the activity. In essence, flow is characterized by complete absorption in what one does, and a resulting loss in one's sense of space and time. People who learn to control inner experience, will be able to determine the quality of their lives, which is as close as any of us can come to being happy.

Manocha found out that the description of the flow phenomenon correlates with, what ancient texts described as "optimal consciousness" reached by meditation. He also found out that there was a relationship between the ratings of experiencing mental silence during a meditation and standardized measures of flow experience developed by Susan Jackson, an Australian sports psychologist and

researcher at the University of Queensland. The flow experience appeared to increase with meditative practice. Thus the ancient practice of meditation might be best understood not as a method of relaxation, but as a strategy for attaining an optimal state of being.

4. MEDITATION - SILENCE THE MIND

In Western psychology three states of consciousness have been defined: sleep, dream and wakefulness. In Eastern philosophy and in several Western religious and mystical traditions, an additional and higher state of consciousness has been described, the so called fourth state of consciousness, the state of "thoughtless awareness" (Ramamurthi, 1995). [18] In thoughtless awareness the duality of the mind is transcended and the practitioner experiences a state of deep mental silence. Meditation is an essential element in all of the world's major contemplative spiritual and philosophical traditions (Goleman, 1988 [19]; Walsh, 1999 [20]). In recent years, meditative practices have been taught in secular forms that do not require adherence to cultural and religious beliefs (Duerr, 2004). [21] Meditation is a process that alters one's consciousness. Meditation is a systematic narrowing of attention that slows the metabolism and helps produce feelings of relaxation (Rathus, 1997, p.13). [22]

Today a large variety of Meditation practices have emerged, some of them are not going beyond relaxation techniques; however, the original goal of Meditation is the elimination or reduction of thought processes, the cessation or slowing of the internal dialogue of the mind.

5. IMPORTANCE OF YOGA AND MEDITATION IN EDUCATION

Yoga helps bring about subtle attitudinal changes in life. If taught earlier on in life and implemented in Schools, it may bring a revolutionary change into the society. Being able to harness ambition in a positive manner rather than through negativity, yoga will not only help the student to excel but also make them a healthier and happier person for the country and community. (Kumar, 2012) [23]

With the everyday practice of Meditation, the mind settles in a peaceful stage, the work efficiency is increased, the individual is enlightened, it brings the progress in society and ultimately the national and global development takes place. (Kapadia, 2015, p.202) [24]

6. SAHAJA YOGA MEDITATION (SYM)

Sahaja Yoga Meditation was introduced by Dr. Shri Nirmala Srivastava to a general public in the 1970s in India. It is based on Vedic traditions but modified so that a daily practice is possible for a modern man. The aim is to reach a state of thoughtless awareness. This describes a state where the constant flow of thoughts that people have is stopped and the mind becomes silent. This has many effects. There are significant scientific evidences for the benefits of SYM and the state of a silent mind. It was shown that it can help prevent of cardiovascular diseases, high blood pressure and it can also function as a stress management (Rai, 1993). [25] Deprivation of drug consumption (Hackl, 1995), [26] positive influence on ADHD children (Harrison, Manocha, and Rubia, 2003), [27] the increase of Grey Matter (Hernandez et.al, 2016). [28] Great benefits are that it leads to mental, emotional and physical balance.

*Mental & Emotional***:** SYM practice is an effective tool for promoting mental health and stress reduction for better wellbeing. (Manocha & *et. al*, 2009). [29] Mental Silence generating as a result of SYM practice is significantly different from normal rest in the context of psycho-physiology, though they appear overtly similar. (Manocha & et. al, 2010). [30] Thought reduction or mental silence through regular practice of this meditative technique have specific effects relevant to work stress and hence occupational health. (Manocha & et. al, 2011). [31] Long-term practitioners of SYM experience better functional health, especially mental health, compared to the general population in Australia. A causal relationship exists between functional health, especially mental health, and the frequency of meditative experience (mental silence). It enhances quality of life, functional health and wellbeing in a large scale. (Manocha & et. al, 2012). [32]

SYM may modulate the limbic system activity, which via hypothalamus may modulate the sympathetic activity and regulate endocrine secretions. Conditioning of these regions by practice of meditation may help in restoring normal homeostatic conditions. Ultimately this lead to constant downfall of anxiety and depression level of the individual. (Sharma & et. al, 2005, p.464). [33] Sahaja Yoga Meditation brings an immense change in seizure control and electroencephalographic (EEG) alternations among epilepsy patients. The ratios of EEG powers in delta (D), theta (T), alpha (A) and beta (B) bands were increased in Sahaja yoga practice group, which changes are not noticed in non-practice group. (Panjwani & et. al, 1996). [34] Sahaja yoga meditation technique makes an individual better equipped to deal with the psychological stresses of day-to-day life since it is easy to learn and gives results quickly. It is well suited for today's superfast lifestyle in which people are not willing to wait and expect results quickly. (Rai & et. al, 2010). [35]

Electrical brain activity associated with regular meditation practice are dynamical by nature and depend on arousal level. It is also proved that meditators have better capabilities to moderate intensity of emotional arousal. (Aftanas and Golocheikine, 2005). [36] Meditation techniques have wider impact on the sustainable development of Human health. This can be achieved with the improvements of inner self and eliminating unnecessary thoughts from the human consciousness. By bringing mental peace it also enhances the physical and emotional harmony among the individuals. Through all these processes it can help in checking the global ill-health. (Rubia, 2009) [37]

Physical: A significant difference observed in Nutritional Assessment of Sahaja Yoga practiced group and non-practiced group of students in Banaras Hindu University. (Choudhary, 2010). [38] Meditation treatment was associated with significant improvements in quality of life, anxiety reduction, and blood pressure control. (Chung & et al, 2012). [39] Regular practice of Sahaja Yoga helps in reducing oxidative stress and increase in blood thiol level of an individual. Hence it can be suggested for a complimentary therapy in the management of cardiovascular diseases, diabetes and stress related disorders. (Gupta & et. al, 2015). [40] Regular practice of Sahaja Yoga Meditation is beneficial for controlling moderate to severe asthma. (Manocha & et. al, 2002). [41] Besides subtle effects throughout the whole body, sympatho-vagal regulation associated with Sahaja Yoga technique has been proposed as the direct evidence of its beneficial effects on some organ systems including cardiovascular system etc. (Yalta, Sivri, & Yetkin, 2011). [42]

*Academic/ Educational***:** In addition to the above advantages, Meditation has shown significant improvements and better performances in students in relation to academics. An experimental study revealed that yoga practice group has a significant improvement in their memory power. (Rangan, Nagendra & Bhat, 2009). [43] Similar kind of study shows the distinct improvements in sustained attention of the students in GES compared to students of MES. (Rangan & et. al 2009). [44] An experimental study, conducted on African & American college students to measure the effects of meditation on their academic achievements revealed that mediation group out-performed the non-meditative group in Grade Point Average Score (GPA)s. (Hall, 1999). [45]

Sahaja Yoga Meditation leads to brain development (Cerebral Cortex), it develops certain areas of the brain that are important for long term decision making (Ethics vs. Machiavellism), so it leads to a long lasting change in the character and the values of the practioner. This embodied, leads to better business decisions on the long term perspective (Schneider, Zollo and Manocha, 2010). [46] His research gives the following outlook: As Sahaja Yoga Meditation techniques changes business decisions towards a longer perspective thinking and better outcome, it may prove to be a good and worthy tool for business schools, as they are interested in changing themselves and their students into a sustainable force and take a lead in the sustainable development.

7. CONCLUSION

Closely reviewing through the United Nation reports on eight millennium development goals (UN, 2015) [47] and 17 sustainable development goals (UN, 2016), [48] it indicates education as one of the important development agenda for sustainable growth. Quality education is the fourth of the 17 sustainability goals. Quality education is foremost, an education that qualifies the student to master his life. Today mastering one's own live is not enough anymore, the interconnectedness forces us to make our own lives beneficial for our collective and for the whole world - the student should be equipped with a sustainable mind-set.

There is word accredited to Einstein, that we cannot solve the problems with the same way of thinking we used when creating them. We are starting to face the results for our planet, created by a mankind with a long history of engagement into deep mental thinking. Ancient wisdom and modern science reports us, that through the stop of thoughts (for a moment) we reach a higher consciousness, a state where we can watch at us from a higher perspective, and that through this new perspective we change. Like we did when reaching the moon. (Pais, 1994). [49]

8. SUGGESTIONS

Students face high physical, emotional, and mental pressures which lead to imbalances and performance under their possible level.

Ancient tradition and modern psychology tells us: The start for mastering thyself is knowing thyself. Indications are that the method is meditation. Science reports, that when meditation is understood and practiced as a silent mind, it enhances the performance levels of individuals by bringing balance in their mental, emotional, physical aspects. The silent mind empowers the person to become a more caring, collective and long term thinking personality – all the attributes needed to meet the challenges of today and the future, on a personal level as well as the global level. Therefore, this paper suggests the inclusion of Silent Mind Meditation practices, like Sahaja Yoga Meditation, as a co-curricular activity in the education systems.

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