

Challenges and Impediments in Engineering Education: Remedies

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Abstract: In the light of escalating problems world over it is high time to look for remedies for the challenges and impediments in engineering education. This paper ponders over the feasibility whether possible to change the robotised and mechanized pattern of higher education to something which is humanitarian in approach. This is only possible by introducing the ethical ingredients in engineering education. India need to harness the demographic leverage it has over other countries for the holistic development of educational system. Leaving the sycophancy and hypocrisy behind, world leaders need to deal with the major challenges with iron hand in order to bring about paradigm changes in the engineering education. Different possible impediments and challenges have been highlighted and if government take up these things diligently then it may be hoped that the world will be free from evil things. No more bloodshed will be there, people will love each other and there will be better penetration of education so that even poorest of the poor may not remain deprived of engineering education and ethical values.

Keywords: Caste, Empathy, Engineering education, Ethics, Innovations, Religion, Science, Spirituality, Swami Vivekananda

1. Introduction

In the face of burgeoning problems of unemployment, global warming and terrorism, world leaders are trying their level best to find the solution of these problems. It is not that they don't know the solution of these problems but the inertia of their dogged and narrow minded religious and material pursuit at the cost of Mother Nature is the main impediments. When we take a sincere peep in the history, we find that the main reasons behind the evolution of these problems are nothing but emergence of unethical school of thoughts and indiscriminate promotion of science and technology which is devoid of moral rectitude. They know it very well that dogged pursuit of something which is unethical and inhuman in nature may devour the

whole civilization yet they don't relinquish their hypocrisy behind. Earlier it was said that lack of education is the root cause of all these problems but these days' even the well educated people are reported to be involved in anti-human and anti-nature activities. Educated and intelligent people devoid of moral rectitude and spirituality will do more harm to mother earth and human civilisation than illiterate and uneducated persons. Hence this paper endeavours not only to enhance engineering education but enhancing it from the standpoint of holistic human development.

This paper focuses upon major challenges and impediments of higher education along with appropriate remedial innovations to be carried out for evolving great human beings. In my view each intelligent and highly educated person devoid of ethics and spirituality is like separate nuclear bomb to destroy the entire flora and fauna of mother earth. Science and Technology no doubt has made quantum jump in every walk of life [1-12]. With the help of science we are able to accomplish our task in the twinkling of an eye. Hundred years ago, if anybody would have talked about the form of science that is visible in present time, it would have looked as a day dreaming phenomenon.

Due to lack of ethics and spirituality, mutual distrust between one individual and other individuals, between one country and other countries is increasing which may only be contained by promoting the concept of assimilating the cosmopolitan philosophy of *vasudhaiwa-kutumbakam* i.e. 'treating the whole world as one family'. With a view to bring about paradigm transformations in engineering education so that it may cater to the spiritual need of human being, many remedial innovations have been suggested through following sections. It was this ethical and spiritual perspective that world leaders were forced to think about global warming and its deleterious impact on ecology. Establishing balance between industrial revolution and global warming is the major challenges before engineers and researchers. It is found that conventional source of energy is the main culprit for global warming and hence many researchers made meticulous research to make shift from conventional to renewable source of energy [13-18].

Having gone in meticulous details of every problems faced by human being, it is found that the Indian epic 'Gita' has solution of every problems [19]. In order to see the engineering education transformation from the humanistic point of view, an intertwined link between science and spirituality (not the religion) need to be established [20-25]. Spirituality should take precedence over religion. There is common bond between every religion that is spirituality. Religion is akin to conformity which in recent years has taken heavy tolls of human lives. Those persons may be regarded as sycophants and hypocrites who don't see spirituality as common thread between different religions. Due to religious conformity many scientists were put to imprisonment because their discoveries were against the tenets of their religion. When Galileo said that it is earth which revolves around the sun he was put to imprisonment because religious belief was just opposite. Taking into cognizance all the major challenges and impediments, this paper is organised as follows.

Section 1 gives the introduction part of the paper. Section 2 deals with caste and religion as major impediments in higher education. Section 3 deals with incorporation of ethical and moral education in course curriculum which is vital and indispensable for engineering education. Section 3 deals with the requirement of pragmatic overhauling of engineering education. Section 4 deals with spiritual solution to stress management in higher Education. Conclusion of the paper is given in section 5.

2. Caste & Religion: Major Impediments in Higher Education

India being the largest democracy in the world has a lot to do in the field of higher education. Despite having its impeccable rich cultural heritage, she has shown the dwindling performance in the field of engineering education due to misinterpretation of spiritual text. Misinterpretation of spiritual text is nothing but hypocrisy shown by many so called ignoble pundits of India. Misinterpretation of spiritual text led to the entrenchment of inveterate caste system which was counterproductive to the free dissemination of knowledge irrespective of caste factor. This is high time when good human being should come forward and give true interpretation of spiritual text so that any misgivings may be dispelled from the minds of critics and leaving caste factor behind, all of us enjoy the brotherhood feeling which in turn will give true impetus to higher education.

According to epic Gita, Krishna illustrates in chapter 4, verse no. 13, categorically that: *Chatur-varnyam maya sristam guna- karma-vibhag-sah*. It means that the four Varnas of Hinduism were created based upon the natural traits and subsequent action of human being. Nowhere is it mentioned that these should be based on birth and family lineage basis.

Lord Krishna further explains in chapter 18, through verses 41 to 45, the different indispensable natural attributes of different *varnas*. In order to become *Brahmin* one should

possess eight natural attributes in them which are enumerated as follows:

1. Peacefulness
2. Self-restraint
3. Austerity
4. Sacredness of body mind and soul
5. Forgiving nature
6. Simplicity of living
7. Versatile knowledge
8. Knowledge of Science imbued with spirituality

In order to become *Kshatriya*, one should possess following seven inherent qualities in human being:

1. Inherent Heroism and Valour-ship
2. Physical and mental resilience
3. Patience and determination
4. Resourcefulness in war
5. Persevering courage in battle
6. Generousness
7. Impartial leadership

In order to fall in *Vaisya* category one should possess three natural qualities:

1. Profundity in farming knacks
2. Natural cow rearing profundity (implies protection of animals in general)
3. Business knacks

Those who are naturally devoid of all the above eighteen qualities all together, fall under *Shudra-verna* whose duty ought to be to support the other three i.e. *Brahmin*, *Kshatriyas* and *Vaishyas*.

But unfortunately, the very purpose was diluted by hypocrite elements of society and this system continued to perpetuate on birth basis only. Quintessential knowledge of scriptures remained confined within a few. Those who didn't even possessed all the attributes worthy to be possessed in order to be known as a person of particular *varna*, forcefully followed the particular *varnas* based on birth basis. Foreign rulers leveraged these dissensions of the society and destroyed the basic tenets of society. And this way higher education got affected badly. If it were not for the parochial division of society, higher education in general and engineering education in particular would have taken big leap in India. Allusion is that engineering education would have penetrated in every strata of society.

A. Appeasement Policy Counterproductive to Education System

Due to hypocrite elements of society in the olden days, so-called lower caste people were persecuted and the situation seem to be proceeding in a reverse way these days. It is speculated that very soon their position will be reversed in the modern socio economic perspective. Reservation policy on caste basis will eat into the vitals of higher education in India. In future, it may culminate in other form of pernicious *varna-vyavastha* quite akin to that in the past.

The basic purpose of bringing reservation policy was to bring equality in the socio-economic pattern of Indian society but now it has become a vote bank issue. Even from OBC, SC and ST only a handful of castes are getting 90% benefit of reservation policy. It is found that in many states, ruling party comes in power exploiting the vote bank of a few dominant castes and religion and consequence is that when vacancy comes out there is lot of brazen violation of rules and regulations and most seats are filled from a few caste people only. Result is that the higher education becomes greatest victims. Many short-sighted and myopic political leaders exploit these discriminative politics for their own benefits. If these maladies are not tackled properly, there will be uncontrollable caste rivalry which will make further dent in engineering education sector.

Remedy to remove caste system is inter-caste marriage and government's endeavours to give incentives to those who valiantly dare to do something in this direction. Many times, in interview, the interviewers gives importance to candidates by seeing their titles which is very immoral practice and counterproductive to higher education.

B. Religious Fundamentalism Counterproductive to Higher Education

Just like caste system, religious fundamentalism is also very counterproductive to higher education in general and engineering education in particular. While the duty of a good engineer is to devise sophisticated technology to protect the human sufferings but due to religious fundamentalism he does just opposite to that tenets. All these happens due to wrong interpretation of some religious scriptures which prejudices the otherwise immaculate mind. Generally, any epic naturally does not consist of this kind of retrograde and counterproductive things but due to the subterfuge of vested interests, they distort the original structure and message and befool the innocent and immaculate people. Even after so many years of independence, women are lagging behind the man because of unscientific and prejudiced superstitions. In every religion fundamentalism is on peak. In some it is on higher side and in some it is on lower side. Reason is wrong interpretation of spiritual text. Just like what we have seen in previous paragraph that how distorting the real implication of establishment of Caste/Verna system as prescribed in Gita, caste system got perpetuated on birth basis. In the same way in other religions also, misinterpretation led to the persecution of women by men and persecution of weaker section by upper section of society.

It is high time government need to deal with the entire fundamentalist element with firm hand. Due to this misinterpretation, sometime religion is regarded as synonymous with the terrorism. Those who dare to speak against these practices are exterminated. Fundamentalists have distorted the religious text to the extent that they say that those who don't believe in particular religion be simply killed and that is the reason for proliferation of terrorism in society. Similarly distorting the actual text of scriptures, the fundamentalists are treating women as an object of sense

pleasure. In many parts of the world women are persecuted beyond imagination. Prevalence of all these things has direct bearing on engineering education. A lot of prejudices are prevalent in many religions due to misinterpretation of holy texts which is engendering violence in society and becomes counterproductive to proliferation of higher education.

C. Ethics & Spirituality (not Religion): Vital for Unfettered Growth of Engineering Education

As elaborated in previous paragraph, it is seen that religious scriptures have been misinterpreted to such an extent that the actual relevance and holiness is on the verge of extinction. So it is high time to say goodbye to any monotheistic form of distorted religion which creates dissensions and division of society. Rather than making engineering education a ubiquitous phenomenon, they are fighting to make their own religion ubiquitous which is very dangerous trend and if not tackled by good people (irrespective of their religious background) skillfully, humanity will be devoured by these fictitious religious predators. Religious fundamentalism is greatest antidote to higher education. It is observed that transformation of a human being depends very much on their upbringing environment. Children's mind is otherwise very flawless and immaculate and hence they are more receptive to any new ideas. Their mind is very fertile and blank in which anything may be infinitely stuffed. Now it is up to us that which thing we want to store in the minds of flawless children.

It is highly disturbing to see that in some parts of the world these innocent and ingenuous minds are stuffed with something which is against humanity. They are forced to practice unethical things. They are forced to hold guns in their hand and trained to kill those who don't supposedly subscribe to their views. Eventually they are brainwashed to such an extent that they become dreaded killers and kills the human being indiscriminately in the name of religion when they become younger. If we think it reverse way such that if those innocent minds had been nurtured by good spiritual persons, they would have become great human being. I sometimes feel surprising as to why the political leaders and so called religious gurus of respective religion don't understand these simple things and make some arrangement so that these innocent minds don't go in the hands of predators to destroy the human civilizations. If from very beginning, misinterpretation of scriptures had not occurred, science imbued with spirituality would have done a tremendous job to improve the engineering education and for that matter the human civilization.

D. Swami Vivekananda's Allusion: Great Remedy to Improve Higher Education

Having meditated meticulously over all the potential culprits of higher education, it may be inferred that in order to allow the engineering education grow in an unfettered way, the world leaders would have to pay heed to the allusion made by Swami Vivekananda in the World's Parliament of Religions held at Chicago in America in 1893.

He alluded that for the holistic development of human being, world leaders would have to appreciate every thought that tends to smoothen the friction of religions. His allusion was very clear that every religion has some virtuous things in them and there should not be any overriding race to establish supremacy of one religion over other. What he said immaculately is presented here verbatim.

"Much has been said of the common ground of religious unity. I am not going just now to venture my own theory. But if anyone here hopes that this unity will come by the triumph of any one of the religions and the destruction of the others, to him I say, "Brother, yours is an impossible hope." Do I wish that the Christian would become Hindu? God forbid. Do I wish that the Hindu or Buddhist would become Christian? God forbid.

The seed is put in the ground, and earth and air and water are placed around it. Does the seed become the earth, or the air, or the water? No. It becomes a plant. It develops after the law of its own growth, assimilates the air, the earth, and the water, converts them into plant substance, and grows into a plant. Similar is the case with religion. The Christian is not to become a Hindu or a Buddhist, nor a Hindu or a Buddhist to become a Christian. But each must assimilate the spirit of the others and yet preserve his individuality and grow according to his own law of growth".

In his concluding remark he said- "If the Parliament of Religions has shown anything to the world, it is this: It has proved to the world that holiness, purity and charity are not the exclusive possessions of any particular religious system in the world, and that every system has produced men and women of the most exalted character. In the face of this evidence, if anybody dreams of the exclusive survival of his own religion and the destruction of the others, I pity him from the bottom of my heart, and point out to him that upon the banner of every religion will soon be written in spite of resistance: "Help and not fight," "Assimilation and not Destruction," "Harmony and Peace and not Dissension."

If world's religious group had taken cue from this speech, hundreds and thousands of people who got killed in the name of religion thence from would have become great saints and scenario of higher education would have been spectacular.

E. Humanity as Religion: Need of the Hour

In the face of burgeoning inhuman activity world over in the name of religion, there is urgent need to think about exploring a new religion which is universal in nature. Hence the need of the hour is to declare in one voice "Humanity as Religion" and "Human being as Caste". As study of science transcends the caste, religion and regional barrier in the similar way assimilating humanity must transcend caste, religion and regional boundaries. That is why Swami Vivekananda said: Sectarianism, bigotry and fanaticism are greatest enemy of human society and for that matter the human civilization as a whole. If human civilization will be at stake then what is use of higher education or engineering education. In many countries, due to religious fundamentalism and religion-centric

educational system, innocent mind of immaculate children are stuffed with hatred and animosity which is becoming a great menace and nemesis to humanity. In the near past, it came to the notice of the world leaders that how even after having had the degree of engineering education, brilliant mind are turning to terrorist activities.

F. Urgent Requirement to Setup Universal Ombudsman to Oversee Religious Bigotry for Promoting Higher Education in the world

Hence, in order that the education be free from irrelevant and deleterious religious fundamentalism, a universal ombudsman must be setup by world leaders, otherwise it will be too late to make amends for the imponderable losses suffered by humankind. Hundreds and thousands of people have been killed in the name of religion. Religion in one sense has become misnomer. In Indian context, same is known as 'Dharma' and is defined in Sanskrit text as 'dharayati-iti-so-dharmah' which means that 'Something which can be embodied' and a lot many human civilizational friendly verses in Sanskrit language are given that can be applied readymade as Mantras of lives.

3. Incorporation of Ethical and Moral Education in Course Curriculum: Vital and Indispensable for Engineering Education

It is appropriate time that world leaders take notice of the dwindling conditions of higher education. We are living in global village, so proliferation of anything whether good or bad get transmitted homogeneously to the entire world whether we want it or not. Incorporation of ethics as a part of course curriculum may be understood by a simple example. Let us assume that 'knife' is 'science & technology' and 'user' of this knife may be both 'spiritual person' and 'unspiritual person like a terrorist'. Use of knife will depend upon the fact that which hand is carrying these weapons whether that hand is spiritual or unspiritual. Same knife when goes to the hand of terrorist, he will be killing the human being and on the other hand if same knife goes to the hand of a cook, a delicious food is prepared. But alas! People are sleeping in deep slumber of anecdotal *Kumbhkarna Nindra*, quite unaware of the consequences of the negative impact of science if it goes to the hands of immoral and unethical people.

They organize many conferences and seminars over proliferation of higher education without noticing its bad repercussions, if it will be devoid of spirituality and ethics. What will happen if all the modern sophisticated weapons will go into hands of terrorists? Why atom bomb was at all dropped on Hiroshima? Were those who dropped these bombs were not highly educated? So, just indiscriminately making endeavor to promote higher education without any human touch will sting the arrow in wrong direction. All the efforts to organize many conferences and seminars for proliferation of higher education that is devoid of spirituality and ethics will be counterproductive for holistic development of human being. Highly educated person devoid of spirituality is like nuclear bomb which has the capability to destroy the world. So it is better to remain uneducated if education has to be devoid of ethical

component in it. This is the reason that despite being from electrical engineering background, my immaculate conscience forced me to rediscover the intertwined link between 'modern science and technology' and 'spirituality'. These are the reasons that many technocrats, bureaucrats and politicians left their so called lucrative professions to join spirituality.

I pity from the bottom of my heart on those who indulges in fictitious religion without assimilating anything spiritual out of it and boastfully bragging about bringing revolution in the field of science of technology. They are more dangerous for humanity than illiterate yet having immaculate conscience. Hence, as illustrated in detail, it is observed that the determinant of whether children become dreaded terrorists or inspiring saints, will grossly depend upon their environment and upbringing. Hence incorporation of ethical and moral education in course curriculum is vital and indispensable for engineering education.

4. Requirement of Pragmatic Overhauling in Engineering Education

In order to have holistic development in engineering education some pragmatic overhauling is required. Education should be invigorating and not the monotonous one. Hence a relook at different front is very much required.

A. Need to Incorporate Tagore & Eklavya Model

Rabindranath Tagore advocated the idea of dissemination of free knowledge. His dream will be realized in the truest sense only if the world follows the *Eklavya* model which entails a new form of educational model wherein awarding of degrees may be totally dispensed with the futile mundane formalities of university, colleges and teachers. Latent talent of students should be given opportunity to bloom and blossom unfettered and unrestricted without any circuitous formalities.

In order to improve higher education, deep penetration and homogenisation of education, especially in rural background, is very much required and for that *Eklavya* model is must. *Eklavya* model is nothing but based upon the learning methodology adopted by *Eklavya* when his teacher i.e. *Dronacharya* declined to impart education to him. He took recourse to the method of self-study and self-learning practice deriving inspiration from the statue of his teacher. If *Eklavya* had been born in present day system where every work needs some circuitous codal formalities, he wouldn't have become such a great archer. In the same way if children are inspired to follow this model, they will be able to unleash their potentiality just like *Eklavya*.

B. Moratorium Over Mushrooming Engineering College in India

In India, these days there is mushrooming growth of engineering college which is proving to be very detrimental. The level of education which is imparted in engineering college is very high and if students who takes admission in these colleges are not good in basic subject such as physics, chemistry and mathematics, they feel themselves under a great stress. Many engineering colleges are getting students

without testing their talents and they give them good marks even though they perform poorly in exam papers. In such colleges, student after passing from the institute don't get good job and indulges themselves in chain snatching and robbery. Many parents and their wards commit suicide in such cases. Many private colleges take exorbitant tuition fee from students which is remitted by them by selling their properties. It has far reaching counterproductive effects on the human psyche. There should be complete moratorium over opening of new colleges who demands exorbitant donation and ruins the careers of innumerable students.

C. Maintaining Accountability in Apex Institutions like AICTE of India.

It is said that if Ganga gets polluted at Gomukh, howsoever we try we can't bring purification down the line. Same thing happens with educational institutes too. It is well known fact that any country progresses only when discipline is ingrained in its upper hierarchy of educational system. All India Council of Technical Education (AICTE) happens to be apex institute of government of India which looks after framing of rules and regulation for appointment and promotion of technical institutions. Having gone in meticulous details of 6th pay commission recommendation vetted by AICTE, it is found to be full of anomalies and ambiguities which caused a lot of trouble to deserving technical teachers in absence of any clarification. This left many faculties in lurch and there was no way out but to fend for themselves.

If accountability and discipline is not ascertained at highest level, the situation down the line is bound to be worse. Corruption level is very high in many apex institutions. Many private colleges are accredited without overseeing whether they are maintaining the desired facilities and infrastructures that may satisfy the educational needs of students and this way the condition of higher education is jeopardised.

D. Improving the Selection Process of Teachers

There is great requirement for improving the selection process of teachers. In the present method of selection of teachers, many experts are invited which come with their own set of questions and these volleys of questions are bombarded to the candidates without giving them time to respond like what is frequently observed in media trial. This is akin to the situation where immaculate and young Abhimanyu (as Candidates) was attacked jointly by all warriors (as experts) without giving him any chance to understand the situation.

In my view, the best way to judge the quality of teachers is that they be given a chance to deliver a lecture on any complex topic of their choice and expert should watch whether the teacher is able to explain that complex subject in a simpler way or not. It has been found that many teachers, due to lack of good teaching methodology and pedagogy, are not able to quench the thirst of inquisitive students. If he or she is able to perspicaciously explain and bring the lesson home to students, they must be selected. In addition to this, empathetic quotient of teachers should also

be tested because many times student becomes victims of the scourge of un-empathetic teachers. This kind of interview process may also reduce the scope of any favouritism and nepotism because if experts are biased then they may put up too difficult a question to be answered.

A teacher's responsibility is not only to teach subject matter but chisel a man to great human being. There is no dearth of brilliant teachers but they are lacking in humanity attributes and due to which education is not expanded the way it ought to be. Hence a teacher rich in empathetic quotient must be given preference over other who lacks in empathetic quotient.

E. Promoting Interdisciplinary Research and Empathetic Skills among Researchers

It is a matter of fact that those who have multidisciplinary skills will feel more comfortable in industry because many industrial applications are interdisciplinary in nature. For example working in aircraft manufacturing industry requires the knowledge of different field of engineering such as mechanical, electrical, electronics and computer engineering. Unfortunately in India, interdisciplinary research is not given that much weightage unlike in many developed countries. Though mechatronics as a subject is introduced in many engineering colleges yet the required experimental infrastructure is still lacking. Mechatronics is synergistic combination of mechanical, electrical, electronics and computer engineering.

There are many subjects which require interdisciplinary research. Biophysical chemistry is one such subject which requires synergistic knowledge of biology, physics and chemistry. History of science is replete with so many examples of scientists who have their interdisciplinary contributions. To name a few, Newton and J. C. Bose had multidisciplinary contributions.

In the same way there are so many researchers who try to establish symbiotic link between science and spirituality. As it is well known fact that the science if not seen from the prism of spirituality will be more harmful than being benevolent. Many rogue nations are always giving threat of using nuclear weapons to the nations who oppose their malicious intent of promoting terrorism and violence. So it is high time that empathetic creativity should take precedence over conformity and those who are advocating the philosophy of science and spirituality must be rewarded properly so that it work as an incentive force for others also who try to promote the intertwined link between science and spirituality further. The joint study of science and spirituality may avert the mutual conflict in the world also. So, interdisciplinary research must be given more attention by the world communities.

F. Requirement of Language Neutral Education

India being diverse country has to face multilingual problem in education. In order that there be penetration of education to every nook and corner, language neutral education is indispensable to have. Proliferation of language neutral research and education will be great service to humanity. India, in this direction is taking a strong measure and already the ministry of HRD,

government of India has set up 'Commission of Scientific & Technical Terminology (CSTT)' whose sole purpose is to develop the dictionary of all subjects in all the Indian languages so that innovations and research may be promoted on the grassroots level. People find it easier to study any subject in its own local language. Many budding talents can't display and unleash their prowess because of lack of research facility in their own language. Many countries of the world progressed by leaps and bounds because of facilitating the research in their own language. China and Russia are few glaring examples among them.

5. Spiritual Solution to Stress Management in Higher Education

In the light of burgeoning incidence of suicidal cases all over the world due to educational burden in higher education (or for some other reason), incorporation of stress management course is indispensable. In this direction Indological cultural heritage may come to a great rescue. Many suicidal cases takes place due to lack of appreciating the thing in its true perspective. Appreciation being a great virtue, every person should be appreciative in nature. An elephant cannot be made to climb a tree howsoever we try to do so. A crocodile may not be made to fly in air like birds. Hence the special propensities and attributes of individuals need to be identified and accordingly they need to be trained and moulded into great individuals. In this direction society, teachers and parents may play constructive role to groom and unleash the latent talents among the individuals.

A. Empathy : Panacea to Stress Management

Gandhi used to say: 'hate the sin not the sinners'. Before hating the sinners one ought to go in meticulous details as to what circumstances led them to become sinners. It may be understood by a similitude. If due to incessant drought any tree gets dried, we don't throw water directly on the leaves of the tree rather we provide water at the roots of the tree. Here in this simile, leaves are analogous to sinners and roots of the trees are the very cause or reasons which make anybody sinners. Hence, in order to rectify the sinners we need to empathically visualize the circumstances owing to which sinner committed the sin and then we should provide succour and moral support to them rather than rubbing salt to their wounds.

B. Gita: A Great Compendium for Stress Management

Many times students world over are committing suicide due to forced stress to outperform each other. Most of the times parents and teachers are responsible for their suicide. Special spiritual training needs to be given to parents and teachers to deal with the stress management. I can say with a great deal of conviction that if tackled with human empathy, this kind of extreme cases may be averted completely.

Gita says: *sahajam karma kaunteya sadosham-
api-na-tyajet*. The implication of this mantra is that students should select and choose that subject, field or course in which they are finding themselves quite at ease. At other

places Gita says: “*swabhava-niyatam-karma-kurvan-na-apnoti-kilbisham*” which means that person should do that kind of work which fits into their nature. Healthy competition is not bad but sense of outperforming and overpowering each other in an un-empathetic way is very dangerous for healthy life. We should see the world with the sense of *vasudhaiva-kutumbakam* i.e. ‘whole world is like our own family’. The moment we see the world with this feeling, many problems are automatically resolved. Given the rich cultural heritage, we may solve many problems by cultural & spiritual assimilation.

6. Conclusions

This paper mainly consists of the challenges and impediments in engineering education and how to get the proper remedial measures. This paper ponders over the feasibility whether possible to change the robotised and mechanized pattern of higher education to something which is humanitarian in approach. This is only possible by introducing the ethical ingredients in engineering education. Different possible impediments and challenges have been highlighted and if governments and different societies take up these challenges diligently, then it may be hoped that the world will be free from evil things. No more bloodshed will be there, people will love each other and there will be better penetration of education so that even poorest of the poor may not remain deprived of science, modern technology and spirituality. Education laced with ethics is the fastest vehicle to move upward in creating generous society.

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