

INTEGRATING HUMAN VALUES IN TECHNICAL EDUCATION

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Abstract

The need for education in Values has often been articulated but no concrete steps have been taken in this direction. It is more than 45 years since Kothari Commission on Education recommended that moral and spiritual education should be an integral part of the curriculum but no such headway has been made in this direction. This paper is an attempt to suggest a value Education based curriculum which is based on Shri A.Nagraj's philosophy named Madhyastha Darshan. Certain models have been adopted in IIT Kanpur; IIIT, Hyderabad and NIT Raipur for inculcation of human values with optimum success.

INTRODUCTION

Science and Technology permeate every field of the life today. While Science is the study of forces and interactions between different "things", both animate and inanimate, Technology can be referred to as things which we make, but were developed by applying Scientific law, knowing what such "things" are capable of doing. Thus technology provides products which affect the human life. All human being aspire for continuous happiness and prosperity. Humans also aspire and work for acquire knowledge. We want to know everything about everything. The quest for knowledge takes us to Scientific mode of research whereas the wants for a comfortable life lead us to Technology. The innovations of earliest man were basically directed towards such technological innovations which led him for a easy life, use of fire, stone tools, Bullock cart, wheel, bow and arrow etc were all directed towards this direction. As long as the human beings lived simple, their technological innovations were limited to making their life easier, but with the advent of the royalty period the need for expansion of land led to incessant warfare which led to use of technology and it led to the technological innovations in the field of faster movements and sharper weapons for the annihilation of the enemy. Come the merchandise period, and the business houses started investing in the technology research to help the emperors in searching and winning new and newer lands for sale of their products as also for purchase of cheaper raw material and services. These innovations include instruments like binoculars, barometer, compass; guns etc. This era provided a different kind of motive for technological innovations. Use of airplanes Nuclear Bombs, Satellite Launch Vehicles arose primarily from the military requirements rather than making the life easier. These innovations have destroyed the whole peace and happiness of human society rather than making their life easier. Today those countries which are militarily most powerful are also considered as the most developed.

Most advanced countries are those whose capital is invested all over the world in commercial purposes, particularly selling weapons or such war technologies. The technology can produce the sharpest knife but it cannot determine that the one in whose hands this sharpest knife goes, shall use it for operating a cancer patient or murdering an innocent for looting money! Technology will give rise to a product but what use that product will be made use of, will be decided by the man who holds that product; for benefit of the human society or its annihilation. Whether Nuclear energy is to be used for supplying electricity or for creating more Hiroshima or Nagasaki will depend upon the values the society of those countries cherishes. Clearly advancements in Science and Technology can only contribute in the field of human welfare when they are also associated with a matching advancement in the human wisdom and values.

The professional education has become more skilled oriented and the values have taken a back seat. As a result of this the high degree of skill competence being imparted gets harnessed largely by profit centric objectives. In the present stage Science and Technology have advanced to a very high degree and are considered to be the most powerful tools for happiness and prosperity. However the use of Science and Technology can only contribute to human welfare provided it is also associated with a matching advancement in human wisdom and values. After all, technology is only a means to achieve efficiently what is considered 'valuable' but it is crucial to first know 'What is really valuable'? This is the portion that pertains to the domain of Value Education.

The blind race for admissions to the IITs in the last 3 decades and the highest market value attached to its alumnus and the declining status of the rest of the field of knowledge including that of Engineering in thousands of colleges having mushroomed all over the country and the declining values in the younger society. is a area of concern to everybody

DIAGNOSIS & STRATEGY

When one studies the situation we are in today, we arrive at the following:

1. **At the level of Individual :** We see today that humans on the one hand have unhappiness, dissatisfaction, lack of hope and a sense of futility about them, and on the other are faced with domination and other problems. The health of the body is steadily declining in spite of improved levels of material and medical facilities. A majority of people find themselves engulfed in the problems of some type or other, and some people have even come to believe that no solutions are even possible.

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2. **At the level of Family :** One sees complaints, fights inter-personal tensions, injustice, hatred and numerous attempts to solve these, ultimately leading to disintegration and a feeling of being deprived of material facilities.
3. **At the level of Society :** Problems are visible in the form of tendency to snatch from one another, opposition, exploitation, struggle, war, poverty and unemployment. There is talk of working in harmony with each other, but never end up being successful.
4. **At the level of Nature/ Environment :** Problems manifest in the form of imbalance. Pollution, scarcity of physical and ecological disturbances. Poisonous material are on the increase in the air, water, soil and food while the fertility of the soil is decreasing.

On the one hand, many breakthroughs and wonders are being made by modernity , Science and Technology; while on the other ,man still remains unknown and unrelated to himself and other human beings. Today, human being has become the biggest source of problem for human beings as well as the rest of the nature. The possibility of war between two nations, terrorism, fear of fights and violence between the nation states and corruption tiring out the daily lives of human beings has increased. Ecological imbalance, chemical fertilizers and pesticides and sedentary lifestyles are making the body weak and prone to diseases

As a result, one is unable to find happiness and perpetually suffer from a sense of lack of prosperity. In such case individuals are not able to contribute to the real progress of self as well as community as a whole. This sense of disempowerment in the individuals in some ways put them in the service of the dominant trend of perceiving only the financial interests.

Strategy is to create institute wide environment which generates confidence in individuals which in turn allows them to make mistake but ensure that they learn from it. Initiation of campus wide process where all the members of the community are in the process of understanding of values. The essential component of this engagement would not be in terms of giving moralistic lectures of the narrow realm of professional ethics. But, to bring out the human values which we all possess inherently. As an experiment Human Values course as a compulsory subject in the curriculum of engineering education ought to be introduced.

Human Values Course as a Compulsory Subject in the Curriculum

OBJECTIVE TO BE INCLUDED

The Human Values course will try to achieve the following objectives.

1. To develop a critical ability to distinguish between essence and form, or discriminate between what is of value and what is superficial in life.
What makes it difficult is the fact that the ability is to be developed not for a narrow area or field of study, but for

everyday situations in life. It covers the widest possible canvas.

2. To move from discrimination to commitment.
It is not sufficient to develop the discrimination ability, it is important to act on such discrimination in a given situation.
3. The course should not use do's and don'ts
The course should not talk of do's and don'ts. Instead, it should encourage, students to discover what they consider valuable. Accordingly, they should be able to discriminate between valuable and the superficial in real situations in their life.

Topic to be Covered :

- Self confidence : Relative and absolute confidence, being self-determined, swatantrata (loosely equivalent to freedom).
- Peer pressure : Examples of external pressure, relating to swatantrata (freedom). Making one's own choices.
- Relationship with family and friends : Major cause of unhappiness today.
- Anger : Investigation of reasons, watching ones own anger. Is anger a sign of power or helplessness, distinction between response and reaction.
- Right utilization of physical facilities : Determining one needs, needs of the self and of the body, cycle on nature.
- Relationship with teachers : Inside the class, and outside the class interacting with teachers.
- Time Management : Issues of planning, as well as concentration (and aligning with self goals).
- Respect : Do you respect yourself ? Do you respect others ? Feeling of respect is different from expression of that feeling.
- Expectations from your self : Excellence and competition, coping with stress, knowledge
- Goals : Short term goals and long term goals (discussing one's goals). How do we set our goal ? How to handle responsibilities which have to be fulfilled while working for goals.
- Steps of transition for the present Educational Institutions to ensure **Universal Human Education**

An appraisal of the present educational system reveals that the courses are focused at learning of technologies, production systems and management technologies targeted at generation and accumulation of more and more of physical facilities, not giving due importance to the happiness of individual and the harmony in family, society and nature.

To initiate a holistic program for education at such a stage, a detailed roadmap needs to be worked out by each institution

and implemented step-wise. A brief layout for the transition, at the level of educational institution, to reach the goal from where our education system stands today can be envisaged in the following 8 steps:

Step 1: Introduce course on Human Values in parallel with other courses. The course will be run through lectures and practice sessions.

Step 2: Conduct the course on Human Values as an integrated workshop where the complete content can be proposed in one go. This will ensure better grasping and comprehension for the students.

Step 3: Design and conduct all programs and courses in the institution based on Human Values so as to establish Value Based Education at the level of the institution.

Step 4: Design and conduct programs for Value Based Living for all students, faculty and staff. This will metamorphose the institution into a family working for a cohesive harmonious growth for all.

Step 5: Initiate programs for self-sufficiency of the institution through cyclical production activities and take such activities to a scale where all the faculty, staff and students can be supported internally.

Step 6: Make the institution a nodal center to promote similar activities in the society at all levels.

Step 7: Make the institution a part of process of universalization of human education on earth.

Step 8: The institution becomes a part of Undivided Human Society and Universal Human Order on earth.

During the past 6 years, significant efforts have been made in introducing Value Education into the curriculum of technical education at level 1 and 2 at IIIT-Hyderabad since 2005, at IIT-Kanpur since 2006 and at GBTU & MMTU (formerly called UPTU) since 2009. The results are encouraging, recently (February 2011) Punjab Technical university has also introduced the course on Human Values.

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