

## THE JOURNEY TOWARDS INTEGRATING HUMAN VALUES IN TECHNICAL EDUCATION

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All human beings continuously aspire for sustainable happiness and prosperity, peace and harmony and are engaged in working for the fulfillment of these universal human aspirations, albeit, in accordance with their present understanding. Therefore, the goal of all educational processes has to be - to empower each generation of human beings to move towards fulfilling the above-mentioned objectives by providing them the right understanding and the competence to actualize such an understanding in their lives. Accordingly, the excellence or appropriateness of any educational process can only be judged by the extent to which it is successful in fulfilling these cherished objectives.



In the present age, Science and Technology have become very powerful tools to maneuver the state of things on this planet and affect the lives of all human beings significantly. Hence, educational streams pertaining to science, technology and their management have acquired great importance and prestige. However, it is easy to understand that science can only provide the requisite knowledge and **technology** can give us the means to achieve efficiently what is considered '**valuable**' and worthwhile by human beings. Therefore, it is, in the first instance, crucial to know '**What really is valuable for human beings?**' or, what is really conducive to sustained human happiness and prosperity? The answers to these questions, which are so fundamental to all human beings cannot come from the domain of science and technology but are to be understood through what can be called as '**Education in Human Values (EHV)**' or 'Value Education'. Thus, EHV, which enables us to understand the human goals correctly and comprehensively, needs to be an essential part of all education systems, much more so, of the technical education system which has gained so much prominence in recent times. Looking at the present education pattern, we find that, in the zeal to cope with the advancements of science and technology, our education system has become more and more '**skill oriented**' and unfortunately **deficient in Human Values**. The value dimension is generally taken for granted or addressed very superficially. As a result, the high degree of skill competence being imparted gets harnessed largely by the consumerist and profit-centric objectives leading to large-scale exploitation of human beings as well as the natural environment. This is a very hazardous trend which is responsible for engendering multiple global crises at various levels such as the individual, societal and environmental, threatening even the human survival.

In the context of educational institutions, the manifest problems range from self-centeredness, acute competitiveness and fascination towards consumerism- to indiscipline and violence in various forms, addiction to drugs and in extreme cases, depression and apathy towards life itself leading to even suicides. The rampant corruption is also a direct consequence of this value-deficit in our education system which needs to be rectified.

It may also be mentioned that various expert committees and commissions on education have highlighted this fact again and again and yet nothing substantial in this direction has really taken shape, perhaps for want of a suitable model and methodology to do the needful!

Realizing the urgent need for effectively integrating human values in the technical education system, some exploratory work was started at IIT Delhi nearly three decades ago under the guidance of Prof. D.S. Kothari. These efforts were gradually consolidated by networking with other similar research groups and with the support obtained from MHRD and have resulted in the development of a viable model to introduce Value Education in the current system. The salient highlights of the work done at various institutions in this direction and important learnings, achievements and milestones of this journey are given below.

### **The Early Exploratory work at IIT Delhi**

Way back in the early 80s, some of us, the faculty members at IIT Delhi joined together to assess the suitability or the so called 'excellence' of our education curriculum from the point of our social needs. This was the time when a lot of literature was also coming from the west as a critique of modern technological development highlighting various environmental and social maladies engendered by it. Also the concerns of the growing energy crises were being felt and the green movements were gaining momentum. All these provided serious motivation for critically evaluating the suitability of modern technological development as well as the prevailing technical education. At this time, we also got the benefit of interaction with Prof. D.S. Kothari, Sh. T. S. Ananthu and others who were strongly advocating the unification of Science and Humanism as the remedy for the present technogenic problems. By careful analysis, the essential complementarity of 'values' and 'skills' and the need for integrating appropriately Science, Technology and Human Values became very evident and this was to be incorporated through necessary modifications in the present education. Unless this is ensured, increase in Science and Technology will only prove to be devastating.

Realizing this important need, we started exploring how a tangible beginning in this direction could be made in the present context. To begin with, a new course input entitled 'Science and Humanism- towards a Unified Worldview' was developed in 1982-83 under the guidance of Prof. D.S. Kothari and was introduced in IIT Delhi as an elective course.

The course presented a critique of the mechanistic – materialistic worldview guiding the modern development; science-religion conflict and degradation of Human values and its hazardous consequences and the strong need for an alternative holistic worldview unifying Science and Humanism.

Some of the significant 20<sup>th</sup> century developments in Science itself such as the relativity and quantum theory etc. as well as a re-appraisal of Eastern Mysticism were all pointing towards the inherent interconnectedness of the Universe and the need for understanding the human 'self' along with rest of the reality which would facilitate a holistic worldview. Inculcation of the holistic worldview required serious efforts towards '**inner development**'.

This course ('Science and Humanism- towards a Unified Worldview') enabled the students to critically analyze the prevailing situation and proved to be quite effective in developing the awareness towards holistic worldview and holistic development. It was accompanied by a number of initiatives such as promoting R&D work towards renewable, eco-friendly and human-friendly technologies, i.e. appropriate technologies; holistic health activities and a re-orientation of NSS involving rural development and other socially relevant projects. A text book on 'Science and Humanism' course was prepared by Prof. P. L. Dhar and Prof. R. R. Gaur.

However, a viable methodology for inner development which could effectively become a part of the present day education system was still to be explored and the work was pursued further.

### **Experiments with ‘Vipassana’ – a Scientific Technique for Self-observation and Self-purification**

In the process of searching for a scientific, universally applicable and an effective method of inner development which could be feasible in the present educational context, we came across ‘Vipassana’ as a scientific and experiential technique for self-observation and self-evolution. This was experimented in great detail under the guidance of Sh. S. N. Goenka. Prof. P. L. Dhar conducted exhaustive experiments with vipassana meditation, both within and outside IITD, studying its impact. A course on ‘Insight Meditation’ was also designed.

Further, the need for a sound framework of understanding the human reality vis-à-vis rest of existence to form the core content for introducing value education was still being felt and the exploration proceeded.

### **Discovering the ‘Jeevan Vidya’ Model**

During the early 90’s, there was an important breakthrough in this direction when we learnt that Sh. Agrahari Nagraj Sharma ji of Amarkantak had visualized such a framework for understanding the human reality vis-à-vis rest of existence through a systematic process of self-exploration. It also clearly brought out the inherent interconnectedness and co-existence at all levels in nature/existence and its implications at individual, societal and environmental level. As a result, the natural relationships and concomitant values were easily discernable. Although, it took us several years to grasp the essence and scope of Jeevan Vidya (*Madhyasth Darshan*) model of Sh. Nagraj but finally, it became clear that this model could provide us a universally applicable pedagogical tool for inculcating right understanding and also facilitate the process of self-exploration on the basis of one’s natural acceptance, leading to inculcation of holistic worldview.

Dr. Yashpal Satya, of IIT Delhi, did pioneering work in understanding and simplifying this model for wider communication. Then, Sh. Ganesh Bagaria studied and carried out exhaustive experiments among various spectra of people to evolve a suitable content and methodology for integrating it in the educational curriculum in the form of an exploratory dialogue. He also set up *Manviya Shiksha Sanskar Sansthan* in 2001 at Kanpur, which worked in collaboration with IIT Kanpur to promote development of teachers and models for living in consonance with *Jeevan Vidya*. With a similar purpose, a few other experimental centres such as *Abhyudaya Sansthan*, Raipur were also established.

### **The MHRD Initiative and Setting up of NRCVVE**

While these explorations were going on, an important initiative came from MHRD around 2000-2001. Sh. M. K. Kaw, the then Education Secretary, provided a thrust to value education by creating a Value Education cell in the Ministry and exhorted various educational institutions to make tangible efforts in this direction. He also provided a clear vision and issued well-thought guidelines for introducing value education in the current system and to make it effective and universally applicable. He was also instrumental in setting up three national resource centres for Value Education – one in NCERT, in the domain of school education; the other in IIM, Lucknow, in the domain of management education; and the third, in IIT Delhi in the domain of technical education. The work done at IIT Delhi was adequately recognized and the National Resource Centre for Value Education

in Engineering (NRCVEE) came into existence in 2001. It provided substantial impetus, support and mandate for R&D, resource development and networking with other institutions. Under the aegis of the National Resource Centre, a series of workshops were conducted, brainstorming with other experts working in this area as well as with various socio-spiritual stalwarts to develop the vision, methodology and content for introducing a foundation course and other constituents of a comprehensive package for EHV to be integrated with the present curriculum. Some of these workshops were held at the request of AICTE.

### **Extensive Pilot Level Experiments at IIIT Hyderabad**

Starting in 2005, extensive pilot level experiments to introduce value education in the academic curriculum were initiated by Prof. Rajeev Sangal at IIIT, Hyderabad with Sh. Ganesh Bagaria as the main resource person. It involved orientation of teachers and their families; trials with different modes of orientational inputs for the students and re-orientation of various campus activities. A new department of Exact Humanities was also started to promote advanced study and application-research in this direction. These experiments have grown stronger and more effective and as a consequence IIIT Hyderabad, has become a demonstrable nodal centre for facilitating EHV.

### **Experiments at *Abhyudaya Sansthan*, Raipur**

Sh. Som Dev Tyagi and other colleagues from *Abhyudaya Sansthan*, Raipur, initially experimented with introducing Value Education inputs in the curriculum of NIT Raipur and a few other technical institutions of Chhattisgarh. Subsequently, an exhaustive effort was made to train a large number of school principals, SCERT and DIET functionaries as well as selective school teachers and also to develop resource material from class I to class VIII for introducing value education in schools with the inspiration and support from Sh. Nand Kumar, erstwhile Education Secretary Chhattisgarh. Extensive, six month to one year duration study courses for school teachers have also been developed which have proved to be very effective.

In 2006, all these experiments based on *Jeevan Vidya* model were also brought to the kind notice of Dr. A. P. J. Abdul Kalam, the then President of India who highly appreciated and encouraged these initiatives.

### **First Large-scale Multi-institutional Initiative Pioneered by UPTU**

So far, the experiments were being conducted within individual institutions, and rather at a pilot level. The first opportunity for large scale multi-institutional environment under a technical university was provided by Prof. Prem Vrat, the Vice Chancellor of UPTU in 2009. Feeling the need for an effective Value Education input in the professional institutions Prof. Prem Vrat, after widespread consultation with the Heads of Institutions and Management persons took a bold decision to launch a foundation course in 'Human Values and Profession Ethics' as an essential audit course. Being well aware of the work being carried out at IIT Delhi and other institutions, he invited us to take up this challenge. A value education cell was set up at the university under the coordinatorship of Sh. Ganesh Bagaria and an advisory committee with Prof. R. R. Gaur, Prof. Rajeev Sangal and others was formed to guide and monitor this programme. This initiative provided great impetus to systematically develop the requisite resource material, the teacher orientation programme, the orientational workshops for the Heads of Institutions and senior educational administrators as well as faculty members in general. It also enabled us to develop the academic rigour in regard to examination, evaluation, feedback etc. Later on, UPTU

bifurcated into two independent technical universities viz. GBTU and MTU and the present respective Vice Chancellors Prof. R. K. Khandal and Prof. S. K. Kak are providing excellent encouragement to stabilize this novel experiment in their institutions.

### **The Launching and Consolidation of the Value Education Programme at PTU**

In 2010, Dr. Rajneesh Arora, the Vice Chancellor of PTU who was also searching for a viable methodology to introduce value education, came to know about the above ongoing experiments. He, along with his senior colleagues interacted closely with IIIT Hyderabad and also attended the 8-day teacher orientation programme at IIT Kanpur and after being adequately convinced about the efficacy of this model, committed himself to launch this at PTU with the full support of the PTU management team. The work at PTU has proceeded very systematically and has led to a proper consolidation of the whole programme, the details of which are being presented in this report. In fact, PTU has become a strong partner in carrying this movement further.

### **The Significant Efforts by Royal University of Bhutan – the First Initiative outside India**

Bhutan is a country which has committed itself to pursue national planning and policies to maximize GNH (Gross National Happiness) of its people rather than working for GDP/GNP. In this respect, they have been implementing a number of measures and are keenly looking for re-orienting their education. So, when Dr. Pema Thinley, the Vice Chancellor of the Royal University of Bhutan came to know about these experiments, he seriously evaluated these and was highly motivated to launch this model in all their higher education institutions. Dr. Thinley, along with other senior educational administrators are presently engaged in seriously implementing this model throughout, in their country and have also become strong partners to facilitate this movement further.

### **The Work at JNTU and the State Level Initiative by Andhra Pradesh Government**

As already mentioned, IIIT Hyderabad has already become a nodal centre with Dr. Pradeep Ramcharla as the coordinating resource person. Last year JNTU, Hyderabad took a decision to introduce the foundation course in all its institutions for which teacher orientation is going on. This year, with the inspiration and support of Sh. Ajay Mishra, Principal Secretary, Education GoAP and Mrs. K. Sunitha, the Commissioner CCE AP, they are enthusiastically working towards introducing EHV in all higher education institutions of Andhra Pradesh. It is undoubtedly a highly challenging task but very much worthwhile.

### **Other Emerging Initiatives**

There are several other universities and institutions such as Himachal Pradesh Technical University, Jawaharlal Nehru Krishi Vishwa Vidyalaya, Jabalpur, Galgotias University, Greater Noida etc. which are gearing up to introduce value education inputs in their curricula. Galgotias University have an ambitious plan for value orientation for all their teachers and students and are starting a 'Centre for Life-long Learning' in the university. Dr. Kumar Sambhav is presently facilitating this programme.

IASE, Sardarshahar has set up a department of 'Value Education and Consciousness Development'. Dr. Surendra Pathak who had earlier experimented with the teachers of *Somaya Vidyavihar*, Mumbai is presently helping IASE to evolve value education programmes for teacher education. They have also sponsored research projects on Existential Harmony and have instituted six chairs for this purpose.

## **Other Models**

So far we have elaborated more on the *Jeevan Vidya* model as this model fulfills all the proposed guidelines and has already been experimented extensively. However, there have been various other innovative experiments on course models or modules which have been developed by various socio-spiritual organizations and have been applied in educational institutions to a varying degree. All these efforts need to be carefully studied and evaluated for their suitability and adaptation for wider-application in the formal institutional environment.

These include the *Jeevan Vigyan* model developed by Acharya Mahapragna and being experimented at Jain *Visvabharti* University at Ladnu. There is a diploma course on Human Values developed by Brahma Kumaris. *Dev Sanskriti Vishva Vidyalyaya*, Haridwar have developed some full-fledged programmes on Value Education. Refresher modules have also been developed by *Tejgyan* Foundation, Art of Living, *Satya Sai* Institute for Human Values, Ramakrishna Mission and several other socio-spiritual organizations.

There has also been a significant value education initiative by Dr. S. K. Chakraborty who established the Management Centre for Human Values at IIM, Kolkatta where Human Values and Professional Ethics modules have been developed focusing on the management personnel. At BHU, Vanansi Prof. A. N. Tripathi has been engaged for a long time in delivering courses on human values.

## **Present Status and the Road Ahead**

The work initiated in a humble way at IIT Delhi about three decades ago in search for a suitable curricular model and pedagogical methodology for effectively introducing EHV (Education in Human Values) has now transformed into a concerted research activity by a network of resource persons from several institutions. It can very well be called as a movement for integrating value education in the current system. As a result of all this work, a viable model and methodology along with the necessary wherewithal has become available. It has been amply demonstrated for its effectiveness. A few nodal centres are also taking shape for developing teachers, resource material, further R&D as well as facilitating any institution to implement this input as a foundation course. As of today, the *Jeevan Vidya* based model is being attempted at as many as 28 universities encompassing more than 4000 institutions. Further research work in moving towards a comprehensive EHV package is also underway. Presently, Sh. Ganesh Bagaria and Sh. Rajul Asthana are coordinating this activity from Kanpur.

However, the task is tremendous as the need and scope are universal and therefore much more vigorous effort is required to create tangible impact. This challenge has to be taken up in a mission mode with the concerted participation of not only the education institutions and research groups but also of the Government and the policy making and monitoring agencies.

Let us all join hands to provide the requisite thrust to meet this colossal challenge of our times!