

An Experiment on Introducing Human Values Course in Undergraduate Curriculum of Engineering Education

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Abstract

Today's technical education, in its widely prevalent form, is not able to adequately empower students to think independently. Consequently, being driven by peer pressure, it is leading to a blind race for jobs that are intellectually and mentally unfulfilling, and wealth that breeds chaos in family and in society. However, education is not just about learning skills (how to) but also about developing the ability to decide on what (what to do?) and why (why to do?). It should lead to the development of critical ability in students towards distinguishing between essence and form, or between what is of value and what is superficial, in life. It should develop their understanding which is a prerequisite for a movement from rule based society to a relationship based society. In this paper, we discuss our experiment of introducing a compulsory course on Human Values in the undergraduate core curriculum in a technical university. Rather than aiming at 'teaching' values, the course is structured to encourage students to discover what are of value for them and for the society. Thus the aim of the course is to enable students to discriminate between the valuable and the superficial in real situations in their life.

The course is conducted through discussions in small groups each mentored by a faculty member. There are no formal lectures in the course. During every class the faculty mentor introduces a topic and initiates the discussion. While analysing and discussing the topic, the faculty mentor's role is in pointing to essential elements to help in sorting them out from the surface elements. In other words, help the students understand the important or critical elements. For the above topics, scenarios are used to initiate discussion. Depending on the nature of topics, worksheets, home assignment and/or activities are included. What makes it challenging 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. Therefore, one week long intense workshop on Jeevan Vidya is conducted which allows students to reflect on questions pertaining to life.

The paper describes a few detailed examples illustrating the methodology of conducting the course. It also analyses the feedback from students of past four years and includes some assessment of its impact on student environment.

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1 Introduction & Background

The world today is ridden with problems galore. While the manners in which these problems are perceived, articulated and prioritized vary widely, there is a commonality of approach in how most civil societies in the world over are engaged in trying to solve them. Inherent in this approach is the assumption, that with enough knowledge and technology, one can manage planet earth. We not only disagree with this assumption, we also feel that it has perhaps played a major role in severely restricting the scope of education in general and technical education in particular.

To elaborate, let us take two major problems we see at the societal level: poverty and unemployment. No amount of knowledge and technology can solve these without addressing the prevalent human relation issues such as those of dominance and exploitation. We feel that a major, if not the sole, purpose of education is to enable individuals in understanding these causal relationships. More comprehensively stated, education implies holistic inputs towards preparing the future generation to understand the essential harmony in the world around them and to empower them to participate proactively in its dynamics.

Even at the level of higher technical education, mere imparting of skills does not fulfill this requirement. Technology only tells us *how* to do things which we want to do. However, without an understanding of *what to do & why* and that of *what is of value to the individual and to the society*, the students can not become proactive in their social environment. Instead, in the absence of a proper understanding, the student community tends to get oriented with the defaults in the society viz., emphasis on superficial and non-essential glamour, consumerist lifestyle, and a false sense of satisfaction (or dejection) in competition and one-upmanship.

As faculty members involved in the process of setting up a, now ten year old, technical university; we have experimented with the methods of addressing this deficiency in our approach to education. Here we outline details of our experiment.

2 Education setting at IIIT Hyderabad

From its inception in 1998, IIIT Hyderabad had adopted a different approach towards shaping student life and activities. For example, it has Student Life Committee to define and create extracurricular space for students. Guidelines and traditions, rather than rules would be used and even they were expected to evolve through dialogue and involvement with the students. The vision was to create a colorful campus, vibrant with activities and with an ambience where a majority of students could participate in a process of responsible self governance.

For the first few years, thanks to the small batch sizes, the faculty could maintain close interaction with all the students who in turn, imbibed with the excitement and spirit characteristic of pioneers, participated in the process of implementing a shared vision.

The heavy load of coursework notwithstanding, quite a few students were involved in voluntary community services which included running the messes, computer system administration web infrastructure development, organization of games, sports as well as cultural events etc. Their involvement was so intense that the institute was moved to create a special award for consistent outstanding voluntary service the Banyan Award and we felt proud to confer the award to deserving students. Everything seemed to be moving on like a dream for nearly four

years till from the 5th year certain happenings alerted us that perhaps every thing was not all right with student dynamics. Here are some of those listed in no particular order:

- In 2003 the third year students, in violation of established traditions, organized a whole night farmhouse party for the graduating batch. It was orderly but the direction things were heading was disturbing. The party apparently had all the trendy characteristics professional DJ liquor etc.
- The parliament elections in the year 2004 had to be nullified twice because of complaints of malpractices including forced voting and use of regionalism etc for campaigning.
- There was a significant drop in extracurricular activities. The inter batch cultural event Amalgam, after two very successful years, had to be cancelled in 2004 for lack of participation. Participation of IIT students in the annual techno cultural event Felicity both as performers as well as audience dropped.
- Attendance in classes started dropping. Many of those present were half asleep. It was clear that a large number of students were hooked to playing computer games and watching movies.
- Student blogs were highly critical of most decisions of the institute administration. What was alarming was that the students no longer analyzed situations as participants in a system but as users of facilities.

The faculty felt concerned. When individually talked to, a large number of students also shared these concerns but they felt helpless. Several restrictive rules and regulations such as compulsory attendance and compulsory extracurricular credits were discussed and some implemented and punitive measures had to be taken on some occasions. But these only served towards widening the studentfaculty gap. Faculty student interaction sessions did not seem to work and talk about values, visions and ideals were received with great skepticism. In particular, the SLC was being viewed very negatively by many students.

3 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, and some people have even come to believe that no solutions are even possible.
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.

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 the only the financial interests.

Strategy is to create institute wide environment which generates confidence in individuals which 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 we introduced Human Values course as a compulsory subject in the curriculum of engineering education.

4 Experiment

4.1 Objective:

The Human Values course tries to achieve the following objectives.

1. To develop a critical ability to distinguish between essence and form, or between what is of value and what is superficial, to 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 does not teach values.

It encourages 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.

4.2 Mode of conduct

The course is conducted through discussions in small groups each mentored by a faculty member. During every class the faculty mentor introduces a topic and initiates the discussion. While analysing and discussing the topic, the faculty mentor's role is in pointing to essential elements to help in sorting them out from the surface elements. In other words, help the students focus on the important or critical elements.

While discussing different topics, the mentor encourages the student to connect with one's own self and do self observation. The student is encouraged to take up "ordinary" situations rather than "extra-ordinary" situations. Such observations and their analyses are shared and

discussed with other students and faculty mentor, in a group sitting.

Experiments or practicals are important. The difference is that the laboratory is everyday life, and practicals are how you behave and work in real life.

The group discussions would also provide support to a student in performing actions commensurate to his/her beliefs. Hopefully, this would lead to development of commitment, namely behaving and working based on one's beliefs (or values).

There would be no formal lectures in the course (other than in the Jeevan Vidya shivir which is a co-requisite). For the above topics, scenarios may be used to initiate discussion. Depending on the nature of topics, worksheets, home assignment and/or activity may be included.

4.3 Jeevan Vidya

The workshop addresses the self in the human being. It draws attention to human needs; need for human relationships, inherent desire to seek knowledge, and the joy that we naturally derive from these. In our current situation, we might be seeking different things. Thus, it brings about a dialogue between what we are and what we want to be. It does not posit happiness in an after-world, but here and now, based on "humanness" common to all human beings. The approach is rational, universal and humanistic.

The workshop is not a course in moral science. It does not tell you DOs and DONT's. It does not tell you what you should become, or what you should do. It only connects you with your SELF and encourages you to seek answers within SELF. The workshop does not talk about rewards and punishments in an afterworld. It does not say that physical facilities are unimportant and must be shunned. It rather talks of prosperity in every family.

4.4 Topics 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 of 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, Identifying one's interests as well as strengths.
- **Complimentarity of skills and values:** Distinction between information & 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.

4.5 Process of evaluation

This is a pass credit option (PCO) course, and there would only be pass/fail grade. Participation in discussions, weekly report and final report will be used in evaluation. Pass grade will be given if student satisfies the above requirement.

5 Outcome in last four years

Approach of the course is holistic covering the large canvas of life. It has made a significant impact on student community. Although the concerns of each individual may be different, what they realize at the end is that there is a need for human values and relationships and that is founded upon the knowledge in the self.

Since human values course is a compulsory part of curriculum in first year, it has led to major re-thinking among them. They have been reflecting on what their goals are, the place of money in life, the joy one derives in relationship, and in seeking knowledge and not merely on jobs and the money they get out of it. They have become relaxed in their self, and become more sensitive to relationships with their friends and family, and regarding society and nature.

5.1 Effect on cultural festival

Felicity: that is what the annual student techno-cultural festival is named as in IIIT. The first annual techno-cultural festival, Felicity 2001, had a vision true to its name: A time of enjoyment, reveling, appreciation of the privilege, freedom and comfort given unto us, sense of celebration, the feeling and hope (if not conviction) that "everything-is-alright-with-the-world" No one of us is where he or she is because of anything we did – the world has made us and given us this niche. And it is time we gave back. That should be what our festival is.

That the reality has veered off, so far away from the vision, dawned upon the IIIT community, as late as 2005, from tell tale symptoms such as: lack of participation of IIIT students in Felicity as performers, huge amount of money spent to invite a celebrity, for a flop event, absence of quality in competitive events etc. Serious students and faculty alike were concerned to find that somewhere down the line the spirit of celebration and associated connecting with each other and with others, has given way to trying to draw large crowds from outside for show off. These symptoms of the essentials of celebration giving way to the superficiality of arrogant showmanship, led to a series of soul searching panel discussions, on the basis of which recommendations on what Felicity ought to be were drawn out.

When it came to implementation of these recommendations, for Felicity 2006, quite expectedly the mainstream student organizing group resented them. But this time there was one difference. The space had been created whereby we could discuss on the basis of what they think as right as against what others follow. There were several who listened and understood.

As a result, though the time spent to put across the point adversely affected Felicity 2006 in general, one could sense a larger proactive involvement of the non-vocal majority. There was in fact a debate generated from within the organizing circles, regarding the need for spending huge amount of money to organize a Rock Show, something which is considered in though which only a few enjoyed, at the cost of other events which a far larger number of students enjoyed from their heart.

We were afraid that these signs of the turn around could be transient. That in the face of what the commercial media paints as celebration and which constantly works on the young minds, the understanding of what real celebration is, something that most of them inherit from celebrations at home, would possibly be fighting a losing battle. It was sheer serendipity for us to find that the turn around to be far more permanent and that too without requiring any major upheavals or caveats from the faculty. Since 2007, Felicity has been moving from strength to strength, drawing visibly larger participation from diverse sections of the student population, every following year. Every year the organizers have been consciously articulating, for themselves, the roadblocks to the free flow of the spirit of celebration; in order to prioritize them and address them one at a time. In 2007 it was the proactive involvement of junior batches, in 2008 it was the involvement of non-metro majority and this year it was the involvement of seniors and PG students.

In hindsight we know what was at the root of this serendipitous experience. We had initiated our engagement at the level of human values with the UG2k6 batch. With every following year, the percentage of the undergraduate population with whom we share a sense of togetherness, and of trust, has been increasing. In the process, more and more students have felt empowered to be able to assert without aggression. On our part the faculty understood the need to provide them with both, guidance as well as space for experimenting and for learning from mistakes. It is indeed a win-win experience with students believing that the faculty is not there only to frown at whatever they enjoy and the faculty realizing that even when apparently restrictive policies are questioned by the students, a large number of them are prepared to examine the rationale with an open mind. It was a heart warming experience for us, when the main organizers, some of whom are known for their indulgence into drinking, proudly announced the successful completion of an alcohol free yet highly satisfying Felicity 09.

5.2 Student Self Governance

From its inception, there seemed to be problems with the student parliamentary process based on general elections. Over the years, it was being observed that in the beginning of the sessions, some of the active students were enthusiastically organizing sports and cultural events involving a large section of students. Once the parliamentary secretaries were being elected all activities tended to come to a screeching halt — an indication that orators and limelight seekers, rather than organizers, were getting elected.

We could demonstrate this effect in 2005 and in the absence of prejudices, suggestions for having a students parliament consisting of organizers, as against certificate seekers, were accepted in 2006 by the student body. The student parliament was constituted not by macro democracy where a few secretaries were elected thru a general election involving all, but through micro democracy with small groups electing their representatives from among themselves. To ensure that posts are held only by those who are active, it was agreed by the students that no

certificates will be given to any one merely for holding posts. Certificates would be given to all who are actually active and in order to be active one need not be holding any official post.

5.3 Effect on ragging

Every year there is a gush of fresh blood in university. There is a moment of welcome that marks the occasion. Being a residential university, this is a moment of switch from the caring gaze of family to the live-in culture of the university. Senior students have a caring role here, apart from the assurances of faculty and management. What are and should be the contents of this moment? This question is significant because there is a prevalence of the practice of ragging of freshers by the senior students. Ragging is a kind of shock treatment to unseat behavioral composure of freshers into wilderness. Ragging methods are designed to dazzle defenseless new entrant into performing humiliating activities. As a policy of the institute ragging is discouraged.

However, certain incidences of ragging came to light in the past. As an impact of the institutional concern for value education, these incidents got handled in an innovative way, a way that changed the culture of institution in a major way.

There was a ragging incidence where three senior students were caught. Disciplinary committee suspended these students after proper inquiry. The punishment generated turmoil among students as it amounted to irreversibly spoiling the career of these senior students. Through an innovative dialogue with the general body of students a way out was formulated. Let these students undergo for a semester value education internship in a non-governmental organization, which worked in non-urban setting for school education some 1500 kms away. And for this they would get credit. This was grudgingly accepted by the students as it saves them from suspension. A semester long stay and internship in that organization changed these students in a major way. This was entirely unexpected by the students. These students not only enjoyed there internship but had marked change in their outlook in favor of humility and humanism. They surprisingly became exemplars of humanism who saw the truth behind dehumanizing humiliation. This incident imprinted a value in the institutional culture - atonement is more powerful than punishment.

5.4 Effect on academics

Majority of students joining IIT, have had at least two years of very rigorous and highly disciplined work ethics, and more importantly extreme strain and tension which sap away their energies prior to joining the institute. Most of them attend coaching institutes for getting trained to secure high rank in very selective competitive exams (IIT selects 175 students among top ranker's out of 750000 students who take All India Engineering Entrance Examination). The achievement of getting into IIT is a mixed feeling for most of these accomplished students, they are happy that they could get into into atop institute in India, but they are also disappointed because with some more luck and hard work they could have go into a better brand-named institute.

The mentality of quite a few students was to spend four/five years at the institute complete the degree requirements and then get a job or go for higher studies. The institute was used as a stepping stone for their global plans. This was contrary to the institute goals and ideals of involving students in academics, getting them to do research in their undergraduate years, and getting them to absorb the sense of belonging to the institute. In order to address these issues

Human Values course along with weekly faculty interaction has been able to address issues related to:

- **Work Load:** The first year students come to the institute without realising the amount of work they have to do in a week. The lagers soon realise that they have been quickly accumulating lot of work that needs to be caught up with. The faculty mentors along with Teaching Assistants and senior students have been communicating with new students about academic load, the importance of it, and how to plan for their studies. The main advantage of this course has been free flow of information about issues on workload and other academic aspects of course conduct among the students and faculty. It has become a strength of character test for students to show that they can take up the load and work with it. Majority of students have realised that mandatory attendance of classes is helping them in their academics.
- **Identifying Academic Purpose:** Our students are lot less worried about grades and more about the learning they have got out of the courses. Within four years of their study they get to realise that understanding of the material is valued and will take them forward in their life. They are able to decide the areas of specialization they would want to pursue and why. In fact, the students are able to eliminate some career paths because they have better understanding of their capabilities and desires. Quite a few students have taken early decisions (like end of second year) to pursue a research career by shifting from course driven B.tech program to thesis driven Dual-Degree program of B.tech and Masters by Research.

The aim of the institute to be a serious academic place with all round development of students is supported by the strong human values component in the academic program.

6 Conclusions

Today's technical education, in its widely prevalent form, is not able to adequately empower students to think independently. Even at the level of higher technical education, mere imparting of skills does not fulfill this requirement. Technology only tells us *how* to do things which we want to do. However, without an understanding of *what to do & why* and that of *what is of value to the individual and to the society*, the students can not become proactive in their social environment. Instead, in the absence of a proper understanding, the student community tends to get oriented with the defaults in the society viz., emphasis on superficial and non-essential glamour, consumerist lifestyle, and a false sense of satisfaction (or dejection) in competition and one-upmanship. As an experiment we introduced Human Values course as a compulsory subject in the curriculum of engineering education. Through this an attempt is made to create institute wide environment which generates confidence in individuals which 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. Approach of the course is holistic covering the large canvas of life. It has made a significant impact on student community.

7 References:

- Rajeev Sangal (2007): *Value education; relieving peer pressure, addressing culture and stimulating studies*, National convention on value education through Jeevan Vidya, IIT Delhi, India. Url: <http://www.iiit.ac.in/techreports/reports.html>.
- A Nagaraj Sharma (2001): Jeevan Vidya: Ek parichay, **Yugbodh digital printers, Raipur, Chattisgarh, India.**
- Kamalakar Karlepalem (2007): Optimizing life, National convention on value education through Jeevan Vidya, IIT Delhi, India. Url: <http://www.iiit.ac.in/techreports/reports.html>.
- Rajeev Sangal (2007): *Some experiments on resolving problems through relationship rather than punishment*, National convention on value education through Jeevan Vidya, IIT Delhi, India. Url: <http://www.iiit.ac.in/techreports/reports.html>.
- Abhijit Mitra (2007) Faculty involvement in student life and activities, National convention on value education through Jeevan Vidya, IIT Delhi, India. Url: <http://www.iiit.ac.in/techreports/reports.html>.
- Ramancharla Pradeep Kumar (2007) Can we create a ragging free environment, National convention on value education through Jeevan Vidya, IIT Delhi, India. Url: <http://www.iiit.ac.in/techreports/reports.html>.