

# Achieving Academic Excellence in Private unaided Engineering Colleges in India

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**Abstract:** In this paper an attempt has been made to explain the strategies adopted to improve the overall performance of a private engineering college. For this purpose, a comprehensive model with a two pronged strategy has been suggested. First, the focus was on the student related issues such as the improvement of class room attendance, student mentoring program, student feedback etc., This was followed by the steps taken to enhance the examination results including the supply of question banks. The second strategy is related to the teachers. How the academic leadership helped the teachers in improving not only the classroom teaching but also in implementing several other student related programs is explained. The details regarding the tremendous improvement of R&D output due to the motivation given by the leadership are also explained. The procedures used for attaining academic excellence using various methodologies have been discussed in detail so that interested people may think of adopting.

**Key words:** Academic excellence, Motivating the teachers, R& D activities, Students' feedback

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## 1.Introduction:

India exhibits a wide range of heterogeneity and complexity from one region to another because of its geographic diversities, variation in physical environment, ethnic pluralities and socio-economic disparities as well as escalating demographic pressures. These factors also have their reflections in the functioning of the Higher Education Institutions. Indian Higher Education system, especially the system dealing with technical education, has a mix of all kinds of institutions with respect to quality. They include IITs, Govt. University colleges, private University colleges, Deemed University colleges and large number of private engineering colleges. The exponential expansion in the engineering education system has arisen mainly because of an increase in the number of private institutions. Now 90% of the engineering institutions in India are privately managed and obviously catering the aspirations and dreams of a large number of students [1]. Therefore, the role played by the private educational institutions offering engineering education cannot be underestimated or ignored and unless the inherent problems faced by these institutions are addressed, there is threat to engineering education itself in this country.

In recent times, some of the state governments, especially the south Indian states, have introduced fee reimbursement scheme and under the scheme, the entire fee to be paid by a student is reimbursed by the respective state governments. Because of the scheme,

large number of academically average and below average students with least interest, motivation and with very low merit ranks is enrolling mostly into private engineering colleges [2]. Socio-economic problems faced by the people of this region are also responsible for the enrolment of large number of students into these engineering colleges [3, 4]. In addition to this, most of the students study up to plus two stage in the language of their mother tongue. In these conditions, imparting education has created innumerable number of problems to the educators. Moreover, when imparting the education of reasonable quality itself is a problem, the question of achieving academic excellence in these institutions doesn't arise. Based on the extensive experiences gained and lessons learnt by the author, a comprehensive model has been proposed and the details are explained in a detailed manner. The author is of the opinion that the model suggested may be useful and if implemented in other colleges, the quality and standards in engineering education especially in private engineering colleges in India may be improved.

## **2. Importance of class room attendance:-**

The general complaint these days is that the students rarely attend the classes and the classroom attendance is very low leading to large number of failures thereby affecting the functioning of the college [5]. In such a scenario, one may adopt a two pronged strategy. In this approach, first one may have to implement the 75% attendance criteria a compulsory in letter and spirit. Although this approach initially creates as a lot of problems to the administration, it is to be implemented at any cost. The second approach is to make the class room teaching interesting and lively. Many a times, a particular class is excellent because it is simple and the topic is very interesting. Sometimes, an otherwise boring subject can be made interesting if the teacher is able to present the course material in a clear and cogent manner so that the students feel the subject very interesting. In fact, it is found that if a teacher genuinely puts in a sincere and serious effort in procuring the best available material, the class will be interesting for the students and the class room attendance should not be a problem. Similarly, when a teacher presents the lecture with a lot of simulations that provide a visual supplement to reading and also provides a lot of material which is not available in text books, the class room attendance will be 90 -95%. Further, the

students will never miss a class when the teacher explains some of the difficult concepts with examples of day today life and of course relevant. Another approach to improve the class room attendance is to have very often interactive type of lecturing method that makes a large number of students to participate in the discussions. In fact, at the time selecting a teacher if his / her teaching capabilities are tested and subsequently trained and oriented by the institutions about the psychology of students and the class room dynamics, the class room teaching will be improved tremendously.[6] Unfortunately, many colleges totally neglect this aspect affecting the overall functioning of the college. In order to address the problem, an orientation / training program explaining the class room dynamics, students' psychology, importance of attendance, student mentoring, class preparation, teaching methodologies, outcome based education & teaching etc., for the teachers is to be organized by the college, during the beginning of every academic year, for a period not less than three months. In this program, the services of eminent academicians drawn from various academic organizations including Universities and training organizations may be utilized. This is one of the important lessons learnt and may be useful to the interested people. In this connection, the certification programs organized by IUCEE may also useful.

## **3. Effective mentoring.**

A mentor is an advisor, teacher, role model, friend, philosopher and a guide. In the mentoring program, teachers, administrators and others in the college advice, counsel and mentor the students throughout the year. One of the main benefits the mentoring system is that the psychosocial encouragement is received by the student. Stress is often listed as one of the major reasons for student's absenteeism and peer mentoring [ 7,8 ] can help to reduce the stress and improves the class room attendance considerably thereby increasing the pass percentages .

The most desirable characteristics of a teacher mentor are

- a) Understanding & sympathetic towards the student's problems
- b) Accessible to the students
- c) Able to move freely without any inhibitions

#### d) Enthusiastic to move with the students

For the successful implementation of the mentoring programs, it is important that the program is valued by both the teachers and students.

“Lack of time” is a typical problem that most of the mentors cite. In general mentors say that they are too busy and cannot spare time as it is an added responsibility, while a few others feel that their work may not get appreciation from the higher ups. To avoid some of these pitfalls, it is important that “senior management should believe the mentoring concept and support the teachers fully in carrying out their mentoring job without any difficult. For this purpose, a good reporting system, which includes notes from the mentoring sessions and feedback from students and mentors, would help in getting recognition, as well as improving the program. All the administrators should feel that the mentoring program is one of the priority programs of the institution. This is another important lesson learnt from experience and the college is implementing successfully yielding excellent results. Our own experimentation in this direction yielded excellent results. For example, examination results have gone up by 15 to 20% and also helped in reducing large number of detentions for shortage of attendance.

#### 4. Question Bank

The assessment process or examination method in an educational system is an important and essential part of its success to assure the correct way of knowledge transmission and to ensure that students are working correctly and succeed to acquire the needed knowledge. The process facilitates generation of balanced questions covering the entire curriculum. The questions should take into account the different levels of the students from excellent, good, to fair. In fact, the teaching- learning process becomes effective, when the knowledge shared in the class is tested by suitable questions. The system allows the colleges to create a Questions-Bank database, along with the model answers, the reviews, and useful exercises for each course. The question bank also helps a student to prepare well for the examination by right planning and right time management [ 9, 10 ]. The study material along with the good quality question bank plays an important role in shaping the career of a student. Further, in order to prepare a quality question bank, elaborate discussions among all the concerned

teachers is essential. Finally, the question bank data base is to be circulated among the students and is also to be kept on the college web site for ready reference. This is program if implemented by the all the people involved in imparting education will improve the results tremendously. This is yet another lesson learnt from our own experience.

#### 5. Effective organization the examination

The examinations have been overriding the process of education and are a matter of concern to all the stakeholders. Several institutions have introduced innovative practices to improve the quality and efficiency in the various processes of their examination systems especially in the conduct, administration and evaluation. In recent times, the academic cheating and plagiarism have increased dramatically as the students struggle to keep up with expectations and demands of their parents, financial aid requirements, work schedules and also as an academic requirement. Furthermore, the advent of new technologies makes it much easier for the students to cheat than ever before. In such a scenario, a novel model- organization of exams may be helpful in controlling the copying in examination to a large extent. In this approach the students are to be asked to undergo three level checking. The first checking is to be done by a team of efficient teachers at the entrance of the building, while the second one is to be carried out in the examination hall by the invigilators. Finally, a specially trained flying squad consisting of 8- 9 teachers check each and every student thoroughly. This method if implemented honestly will be appreciated by the parents, students, the affiliating University etc., Thus, the effective way organising the examinations helps the colleges in enhancing their images and is yet another important lessons learnt from the experience.

#### 6. Students' Feedback

The student feedback is a common approach adopted by several educational institutions to test the quality of teaching of a teacher. Quantitative student ratings of teaching are the most common methods to evaluate teaching. The student feedback provides valuable information in weeding out the third rate teachers. Soliciting mid-semester student feedback has additional benefit of hearing the students' concerns so that the appropriate action can be initiated. Although, the students' evaluation of a

teacher is a source of pride and satisfaction—the method often creates frustration and anxiety because the fear of bad ratings may stifle pedagogical innovation. In view of this, it is essential that all the colleges have to undertake the student's feedback exercise more effectively and efficiently, and is very much helpful in improving the class room teaching. This is another important lesson learnt.

### 7. Motivating the teachers

Recent studies have shown conclusively that the teachers are motivated more by intrinsic than by extrinsic rewards [11, 12]. In fact, a few surveys also indicate that teachers in general feel satisfied by factors such as participation in decision-making, use of valued skills, freedom and independence, challenge, expression of creativity, and opportunity for learning. The surveys concluded that high internal motivation, work satisfaction, and high-quality performance depend on three critical psychological states. They include - shared governance, in service training, and systematic, supportive evaluation.

Any organisation that creates an environment, in which the teachers feel a pride of belongingness to the institution, derives maximum output. Some of the factors that also influence employees are job security, working conditions, salary and working hours. In colleges the morale of teachers is an important factor to ensure that they give their best at all times so that students receive the best possible education. In fact the teachers can also influence the young minds (students) easily and can teach not only the subject but also the moral and ethical values so that the overall personality of the students is shaped.

In view of this, every effort is to be made to identify some talented teachers, motivate them by giving them suitable administrative positions. The teachers are also to be encouraged by deputing them to National and International conferences by giving them TA, DA and the registration fee etc., A few more teachers are also to be encouraged by giving them exam. Related work so that they get some monetary benefit. In the process a lot of work related to NAAC, NBA and Autonomy may be extracted from them. This is one of the important lessons learnt from the experience and is very much useful in running the institutions successfully.

### 8. R & D activities

Engineering research is founded on a disciplined approach to problem solving and the application of sophisticated modelling, design, and testing tools to solve problems. For instance, fundamental engineering research led to the creation of finite element methods of stress analysis, which have provided sophisticated computational tools used by mechanical and structural engineers in a vast array of applications. Engineering researchers have also made significant progress in using molecular dynamics to measure time more precisely, a critical enabling technology for faster computers, global positioning systems, wireless communications, and many other products for the use of a common man. Many other technologies developed are based on the results of fundamental engineering research, mostly conducted at Universities and other educational institutions [12].

In view of this, the goal of the private engineering schools should be to focus more on producing engineers with exceptional quality through innovation, entrepreneurial skills, and global competence. These goals clearly underscore the need for undertaking R&D activities in all the engineering schools. Moreover, the correlation between R&D and teaching is the basis for ranking the Universities in the world. In view of this, one of the lessons learnt is that R&D and teaching are like two sides of a coin and cannot be separated from each other.

Therefore, in order to establish and improve the link between R&D and teaching, it is essential to encourage the teachers to undertake R & D activities in a big way. In fact, to encourage the teachers to undertake R& D work, the college may think of paying an incentive increment of Rs. 10,000/- for the teachers who are awarded with Ph.Ds. Due to motivation, several teachers will try to apply for funding from various funding agencies.

The motivation would also help the teachers to present their work in about national and International conferences. The teachers will also be motivated to publish research papers in Journals with good impact factor. Therefore, one of the important lessons learnt is by motivating the teacher's one can achieve academic excellence.

## 9. Conclusions:-

On implementation of the model mentioned in the paper, and due to various other initiatives taken by the college, the overall results of all the students have gone up from 35 % to 70 %. The number of placements has gone up from 60 to 250 and there is considerable and visible change in the mind set of teachers in the positive direction. The presence of R & D activities is felt even by the ordinary onlookers. This argument is reasonable because 8 years back people didn't know anything about sponsored research project. Now the college is having two major projects (DRDO sponsored) and 7 minor projects (UGC sponsored) with a total budget of about 1.90 Crores. In view of this, it has been concluded that the overall performance of the college in all fronts has been improved leading to academic excellence.

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