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## AN INVESTIGATION ON FACULTY DEVELOPMENT AND RETENTION IN TECHNICAL EDUCATION

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### ABSTRACT

A large number of engineering colleges have come into existence in the last two decades in India. A good majority of these colleges have come up in the self-financing private sector. This sudden expansion of technical education has resulted, in many instances, in decreasing standards and to a certain extent in the exploitation of the system. If we look deep into the reasons for this situation, one of the major reasons can be easily identified as the dearth of qualified and committed teachers. Mckinsey & Company survey found that 90% of those firms surveyed said that at present it is more difficult to retain talented individuals than it was several years before.

Keywords: Technical education, self financing, private sector.

### 1. INTRODUCTION

"Education in many ways is an uncertain technology which takes place in a non-prescriptive environment with a human output with wide variations."

"The problem of technical education is that it makes use of faculty educated and trained in the past to instruct students in the present for preparing them to work or perform in the future."

The above two statements sum up the problem associated with education in general and technical education in particular. Globalization of economy and the advances in information and communication technologies combined with rapid changes in technology worldwide have compelled all nations to reassess their education system in all its aspects.

The education scenario of this century is thus characterized by emergences of alternate delivery system, expansion of formal, non-formal, open and distance education, increased privatization of education, greater stress on developing generic skills, integration of new technologies in teaching-learning process, greater autonomy and

flexibility, increased participation of user system in education and training and measures for introducing accountability and quality assurance. The above revolutionary changes are resulting in greater role and responsibilities for teachers. Teachers have to play multiple role now including instruction curriculum and instructional materials development research and development, extension services and consultancy, extra-curricular and co- curricular activities of students and increased role in the management of the institution. The existing faculty development programmes, if any, followed by many institutions cannot fulfill the above-mentioned role of teachers. The emphasis so far has been to acquire higher and specialized qualification in their own discipline which though essential does not completely cater to their faculty development needs. This paper attempts to explain the important changes, which are prevalent in technical education at present and how faculty can be prepared to meet these challenges.

## **2. FACULTY SELECTION**

Selecting the faculty with proper qualifications, commitment and essential personal traits is equally important as developing the faculty for the roles expected of them in the present teaching scenario. Generally, only very few engineering graduates seem to be interested in the teaching profession. Also when jobs with covetable salaries are available in plenty in other fields, it has become really difficult to get good and talented graduates for the teaching profession. Further, if one opts for the teaching profession, he/she has to acquire M.Tech. and Ph.D. degrees to get promotions and job advancements. This factor also is diverting many from the teaching profession. The only way to attract really talented graduates for the teaching profession seems to be offering them higher salaries and perks than those available in other major sector of employment. Moreover, for taking higher qualifications like M.Tech. and Ph.D., the practice of deputing teachers with salaries should be followed. In addition, an attractive career advancement plan should also be guaranteed .Most of the present generation engineering colleges are reluctant to take such steps due to various reasons. But some colleges are offering attractive salaries and perks and they are getting really good faculty.

The faculty selection should be done with extreme care by an expert committee taking into consideration various traits such as communication skill, presentation skill, analytical skill, ability to interact with students, love for the profession, ability to control the class, integrity and emotional balance. Most of these generic skills can be further developed in teachers through proper staff development programmes after he/she joins the teaching profession.

### **2.1 FACULTY DEVELOPMENT**

Faculty development is an important aspect to be considered seriously by the managements of technical institutions. Use of multimedia packages, hypertext, video-text etc is finding more and more application in engineering courses. Internet is going to shift the emphasis from acquisition of knowledge to quick retrieval of the same, because of the accelerated pace at which knowledge and skills are expanding with increased automation. The faculty and students will have to concentrate more on the process of acquisition rather than coverage of large content area. Also, since science and technology

are advancing rapidly, knowledge and skills are going to become obsolete in shorter periods. Hence the updating and upgrading of knowledge will be essential for both faculty and students.

In this context, modern computer technology with integration of expert systems, multimedia, artificial intelligence and internet will play an increasing role. This will call for faculty development to take care of training and development of generic computers skills in all faculties and use of information technology in educational process such as manpower information, curriculum and instructional material development and student evaluation. From the moment a fresh graduate or a post-graduate is appointed as a teacher, we have to think of his/her developments an effective and committed teacher. This development process involves various training programmes given a different stages in the career of the teacher. These includes

- ✓ Induction training which covers fundamentals of teaching, learning and
- ✓ evaluation
- ✓ Training on instructional design and delivery
- ✓ Training for research and development work
- ✓ Training in management and administration

### **3. INDUCTION TRAINING**

Induction training is the first training for a newly recruited faculty. This training can be of one-week or two-weeks duration. Such training is arranged by the Indian society for Technical Education through selected Engineering colleges during summer and winter vacations and by the four National institutes of technical Teacher's Training and research (NITTTR) at Chennai Kolkata, Bhopal and Chandigarh. This training equips the teacher with the basics and fundamentals of teaching and evaluation. The following are generally covered in the course:

- ✓ Roles and responsibilities of teachers
- ✓ Characteristics of good teachers
- ✓ Values and ethics of teaching profession
- ✓ How to prepare for a lecture class
- ✓ Preparing notes for the class
- ✓ Delivering an effective lecture
- ✓ Communication skills
- ✓ Effective use of chalk board
- ✓ Inter-personal communication in class rooms
- ✓ Effective class room management
- ✓ Developing students' interested in class.

- ✓ Use of teaching aids
- ✓ Body language
- ✓ Motivating students
- ✓ Student assessment
- ✓ Time management
- ✓ Emotional intelligence
- ✓ Transactional Analysis
- ✓ Fundamentals of instructional design

An important and essential part of the training is taking videos of each participant while he/she is teaching, showing the video to the whole group of participants and discussing the performance in detail.

### **3.1 TRAINING ON INSTRUCTIONAL DESIGN AND DELIVERY**

As a teacher advances in his/her career, he/she has to be given further Training and exposure on instructional design and delivery. The teachers should be able to convert their lecture notes into monograms and later into text books. Two or more teachers teaching the same subject can join together and develop a suitable monogram or text book. In a similar way, they can develop laboratory manuals also. The teachers can also try different methods of delivering lectures. This will avoid monotony and will enhance students' interest in class.

A teacher or a group of teachers jointly can prepare what is known as 'structured notes'. For this they have to refer to a number of books written by different authors on the same subject and combine the ideas in them in a form and language which are most suitable for the students concerned.

### **3.2 TRAINING FOR RESEARCH AND DEVELOPMENT WORK**

Research should be considered as integral with teaching work. By doing research, the teacher acquires more insight into his subject and develops more confidence in teaching the subject. It is therefore very essential that the teacher should be given some training in doing research work and gradually initiated into research activity. The following steps may be followed for doing research:

- ✓ Identify one or more areas of interest for research
- ✓ Develop a habit of reading books and journals related to these areas.
- ✓ Visit one or more research organization to understand the methodology of research
- ✓ Attend a few seminars/workshops/short-term courses related to the selected areas

- ✓ Identify one or more topics for research and make a literature survey relating to these topics.

Based on this survey and discussion with other faculty, finalize a topic for research.

- ✓ Identify one or more partners, if found necessary and useful, to work together on the topic.
- ✓ Make a financial estimate for completing the research and approach appropriate agencies for financial support, if possible.
- ✓ Make a detailed literature survey on the selected topic.
- ✓ Finalize the research procedure and state the expected outcomes.
- ✓ Draw up a detailed time schedule for completing the project.
- ✓ Fabricate or procure any equipment needed for the work.
- ✓ Proceed with the research as scheduled and make observations of the outcome.
- ✓ Analyze the results and express the outcome in the form of charts, graphs, tables etc.
- ✓ Record the major outcome or findings of the research
- ✓ Write a report on the research work conducted, analyzing the outcomes and send it to the financing agency, if any.
- ✓ Prepare one or more technical papers based on the findings of the research and send them for publication in journals or for presentation in seminars.

### **3.3 TRAINING IN MANAGEMENT AND ADMINISTRATION**

In addition to teaching work, a teacher is expected to assist in the administration and management of the institution and department. He/She will have to guide and assist students in various co-curricular and extra-curricular activities. On becoming the head of the department or the Head of the institution, he/she will have to be fully prepared to take up the responsibility. For this, the teacher should be given proper training and orientation during his/her career. The training may cover topics such as:

- ✓ Financial management
- ✓ Personnel management
- ✓ Process management
- ✓ Materials management
- ✓ Project management
- ✓ Image building
- ✓ Leadership building
- ✓ Teamwork and group activity

- ✓ Industry-institute partnership
- ✓ Internal resource generation
- ✓ Quality assurance
- ✓ Institutional autonomy
- ✓ Entrepreneurship development
- ✓ Building up values
- ✓ Academic autonomy
- ✓ Accreditation
- ✓ Eco-friendliness

#### **4. FOLLOW UP ACTIVITIES IN TEACHER DEVELOPMENT**

Training alone will not be able to achieve teacher development as expected unless there is continuous monitoring and follow-up from the authorities concerned. The following activities or steps are suggested for this follow –up :

- Feed back from students
- Proper performance Appraisal
- Monitoring by senior faculty
- Perspective plan for development of the institution
- Incentives for performance
- Institutional culture

##### **4.1 FEEDBACK FROM STUDENTS**

After an every training given to a teacher on teaching methodology (Faculty Development Programme), feedback should be taken from the students to assess the improvement in the teaching process. The efficiencies pointed out should be communicated to the teacher for correction. Such feedback from students should continue till the teacher becomes an effective teacher. The feedback can be taken by the teachers themselves or by the head of the department (HOD) or Director of the school (SMBS).

##### **4.2 PROPER PERFORMANCE APPRAISAL**

Performance appraisal system as stipulated by AICTE should be implemented for all the staff of the institution including faculty and other staff. This will give an opportunity for the faculty to write down all their achievements and for the management to assess the performance of each faculty in detail. This will have therefore, some motivating effect on the faculty to attend training and other orientation programmes and develop themselves

##### **4.3. MONITORING BY SENIOR FACULTY**

For newly appointed teachers, it is a good practice that a senior faculty or the HOD sits in the class with the students for a few days when the teacher delivers the lecture. After the classes, the concerned senior faculty can point out to the teacher the areas in which he/she should improve. Such a practice is followed in many institutions with good success.

#### **4.4. PERSPECTIVE PLAN FOR DEVELOPMENT OF THE INSTITUTION**

The institution should have a perspective plan for the future. The plan should clearly spell out what the institution is at present in matters such as examination results, placement of students, infrastructure, R&D work, students performance in co-curricular and extra – curricular activities, research grant and financial support received from various agencies, overall image of the institution, etc. It should also spell out what the institution expects to achieve in all the above areas in the next one year, next 5 years, next 10 years and so on. Only by fixing such targets, the management can motivate or compel the faculty members to perform better in all areas. These should be a fixed target towards which all faculty members should put in their efforts to reach. This will work as a compelling or motivating factor for them. The institution should also try to get ISO certification as continuous improvement is strongly advocated in their certification.

#### **4.5 INCENTIVES FOR PERFORMANCE**

“Celebrate success” should be one of the mottos of the institution. Whenever a faculty member performs well either in the teaching or in research or in some other activities, some recognition by way of felicitation, financial reward, increments or promotion may be considered, wherever possible. This will keep the faculty motivated and fully alert.

#### **4.6 INSTITUTIONAL CULTURE**

Try to develop a distinct identity, character and culture for the institution. The institution should be known to everyone on the strength of such an identity. This will have a definite motivating effect on the faculty and other staff to maintain or improve this culture.

### **5. FACULTY RETENTION**

The most important asset of an educational institution is its faculty. The institution can work wonders with a team of dedicated, qualified, competent and motivated teachers. Deficiencies in infrastructure and facilities do not matter much in the presence of such a team of dedicated teachers. Admitting the best students available is an equally important factor for the good performance and image of the institution. But the major problem faced by most of the technical institutions in India, especially engineering colleges, is getting good faculty and retaining them. It is reported that in the new engineering colleges established in Tamil nadu recently, nearly 20 to 30% of the faculty leaves the institution after serving for one or two years or even less. Why is such a thing happening? How can prevent such exodus from institutions?

There is no easy solution to this problem. What we can do is to reduce the exodus to the minimum. The main reasons for their leaving the institution is getting a better job or higher salary, getting a job in a more reputed institution or near home, unavoidable displacement consequent to marriage, the not-so-good reputation and academic environment of the present institution, etc. The following are, therefore, suggested to counter this problem.

- ✓ Give a reasonably good salary and other perks.
- ✓ Institutions in remote areas should give more salary than what is given by colleges in urban areas.

- ✓ Appoint only those who give an undertaking to serve the institution for at least 2 to 3 years.
- ✓ Select and appoint only those with M.Tech. or similar higher qualifications.
- ✓ Appoint only those who are coming from neighboring places to the extend possible.
- ✓ Develop cordial relationship with the teachers who join the institution.

## 6. CONCLUSION

Some issues regarding faculty selection, development and retention have been discussed above in the light of the present scenario in the country, especially with reference to Kerala. With the starting of many new engineering colleges in the country during the past few years, there is much difficulty in getting dedicated and properly qualified teachers.

The percentage pass of students in most institutions is dismally low. The quality of engineers coming out of our institutions is also very poor. Major employers feel that only around 40 to 45% of the pass- out are readily employable. The situation has to be improved at any cost. The only alternative open to us, at present, seems to be the following:

- ✓ Select students considering merit only.
- ✓ Appoint the best teachers available.
- ✓ Give a good and reasonable salary to attract the best talents available.
- ✓ Implement a proper staff development plan to transform them into good teachers.
- ✓ Implement a systematic performance appraisal system for the faculty.
- ✓ Have a good career development plan for the faculty.
- ✓ Give due weightage to merit and achievements for promotion.
- ✓ Maintain a cordial and conducive environment in the campus.
- ✓ Promote R&D and consultancy activities to provide additional income to teachers.
- ✓ Depute teachers for conferences and for attending training programmes.

It is expected that by implementing some of the suggestions indicated above, the performance of the faculty can be enhanced and the overall environment, especially with reference to the faculty, can be greatly improved and made more conducive for the healthy growth of the institution.



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