

## TECHNICAL INSTITUTIONS - INDUSTRY INTERACTION - SOME NEW DIMENSIONS AND REALITIES -

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### 1.0 INTRODUCTION

This subject has been under discussion on various forums for a long time in the past. The discussions were in most cases initiated by technical institutions and although both sides agreed in principle that such interaction is the need of the day, very little has actually come out in practice except at local and individual levels. All such attempts have failed to establish such interaction as a culture. At the same time, during the last few years some new realities have come to stay and have added new dimensions to this topic, which are favourable for developing such interaction.

It is proposed to discuss these new dimensions and realities in this article together with areas of interaction.

### 2. NEW DIMENSIONS :

The new dimensions which have to be taken into account are related to both i.e. the Industry as well as the Technical

Institutions. On the Industry side these are :

- i) Growing competitive economy coupled with rapidly changing technology as a result of globalisation and liberalisation.
- ii) Decentralisation of industries
- iii) Appreciation by the Industry of the need of interaction.

On the technical Institution side, these are :

- i) Establishment of new Technical Institutions on a large scale in semi urban and rural area.
- ii) Introduction of diversified courses
- iii) Close association of Management of many of these institutions with the management of agro based industries in the area.

These are discussed briefly below.

### 2.1 Growing Competitive Economy :

As a result of globalisation, liberali-

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sation and market economy, the industry has to face challenges of a growing competitive economy. The days of sellers market are fast yielding to buyers market. This, together with the rapidly changing technology, demand a high degree of application capability and innovative spirit amongst engineers. They should not be merely technocrats but should possess versatility.

### **2.2 Decentralisation of Industries :**

Contrary to the tendency to cluster around the traditional industry centres, now, with the facilities and incentives offered by the State and Central Governments, industries are moving to rural/backward areas, many of them being small scale industries. This, together with the agro industrial base already established in rural area will give a great fillip to industrial development in rural area in the near future. The local entrepreneurs are in need of technical know how right from the preparation of project report to running efficiently the industry after starting. One of the major reasons of increasing number of sick units in the small scale sector is lack of proper technical know-how and management skills.

### **2.3 Appreciation by Industry of the Need for Interaction :**

As mentioned earlier, in all previous attempts to bring technical-institutions and industry together, industry in general appeared to be not very serious about it. As an example, it was a common experience that no significant contribution was coming when Industry

people were invited to work on Board of studies of Universities.

It is a welcome sign that this position is changing. Representative bodies of industries such as C.I.I. are holding a dialogue with Engineering Colleges and polytechnics.

### **2.4 Establishment of New Technical Institutions :**

The bold policy decision of the Government of Maharashtra taken in 1983 and by some southern states to allow private bodies to establish Engineering Colleges and polytechnics, on no-grant basis which was criticized severely by all concerned is now paying back good dividends. About ninety engineering colleges and one hundred thirty polytechnics opened as a result of this policy. Quite a good number of these institutions are now well established and are in a position to compete with the existing Government Colleges as regards to physical facilities and quality of pass outs. Incidentally many of these colleges are situated in the rural, semi urban, or under developed areas in proximity to the new industrial development referred to in para 2.2.

### **2.5 Diversified Courses :**

Many of these new institutions are offering diversified courses, other than the conventional Civil engineering, Mechanical Engineering and Electrical Engineering. Degree and diploma courses in many new disciplines have been started in these colleges thus satisfying to a certain extent, the need of engineers in the emerging technology area.

### **2.6 Close Association of Management of many of these Institutions with the Management of Agro Based Industries in the Area :**

The rural leadership which was responsible for setting up and successfully running the Agro-based Industries in the area also took lead in establishing some of the new technical institutions. This has provided a smooth path of interaction between these Technical Institutions and the concerned industries. These industries have helped the local institution in arranging industrial visits, providing guest faculty, providing problems for the project work, etc. The institutions, in turn, are providing facilities of computer training, computerisation, testing facilities etc. to these industries.

Thus it will be seen, that these new dimensions have created a situation which was never so favourable for a meaningful interaction between the Technical Institutions and Industries which had remained elusive so far.

### **3. THE RATIONALE BEHIND THE INTERACTION :**

Even though, now there is a favourable situation for a close interaction between Technical Institutions and Industry, before discussing the mutual expectations of the Tech. Institution and the Industry from each other in the process of interaction, it will be worth while to set the rationale on which such interaction can be based, which is discussed below :

#### **3.1 Principle of Self Interest :**

It is most logical that the technical

institution and industry where the pass outs of the technical institutions are absorbed must work together. But mere logic does not bring people together while self interest does. Therefore it should be ensured that the self interest of both sides will be served by the interaction. While the self interest of the technical institutions has been spelled out often, the self interest of Industries served by the interaction has not been brought out clearly. Apart from getting the desired quality of passouts which is a major input for an industry, the industry can draw on physical facilities available at the institution, can increase the competency of their staff through refresher courses conducted by institution facilities for continuing education of their technical staff, solution to some technical problem etc. would be available to industry.

#### **3.2 Joint Responsibility :**

Unlike, as assumed, at present, Engineering Education should be considered as a joint responsibility of Technical Institutions and Industry. No curricula can produce an engineer who can be employed directly by the industry. A particular industry has to train him further to shape him as per requirement of that industry.

#### **3.3 Complimentary Nature :**

An engineer in industry makes use of the theoretical knowledge attained in Technical Institution, indicating that both the theory and practice are compatible and complimentary to each other. Behind every practice there will be a

sound theory and a theory which can not be brought into practice is useless. Understanding this position will help shedding off some mutual prejudices such as the academic people thinking themselves morally at a higher level and industry people considering the academicians to be dwelling in ivory tower.

It is felt that a sound interaction can be developed on these rationale.

#### 4. AREAS OF INTERACTION :

Taking into consideration the new dimensions mentioned earlier and rationale set for interaction, the areas of interaction are indicated below :

##### 4.1 Contribution for more Meaningful Design of Curriculum :

The common criticism by the industry is that curriculum contents are obsolete, too theoretical and not suitable to the requirements of industry.

A representative body of industry should co-operative with University and Board of Technical Examination to first spell out the competencies expected of the pass outs and accordingly prepare curriculum taking into consideration the requirements of industries based on the technological developments in near future.

##### 4.2 Assistance in Giving Varied Learning Experience :

i) Industries should give facilities such as planned visits of students.

ii) Vacational training, work shadowing to third and final year students for exposure to industry.

iii) Assistance to students project

work.

##### 4.3 Extending Physical Facilities :

The institutions should be allowed to use available physical facilities such as costly sophisticated Machines and Testing Equipment. etc.

##### 4.4 Industry Exposure to Teachers :

Facilities for exposure of teachers to industry during vacation should be made available.

##### 4.5 Providing Industry Personal as Guest Faculty :

The faculty of the Institution can be supplemented by Industry personal which will go a long way in bridging the theory practice gap.

##### 4.6 Active Partnership :

This can assume various different forms :

- i) Adoption as suggested by AICTE
- ii) Sandwich programmes.
- iii) Developing tailor made programmes as per request of a particular Industry or group of industries, in collaboration with a Technical Institution may be even outside the University ambit.
- iv) Joint participation in R & D.
- v) Pretraining - selection of students in the third year of their present course and design a programme of additional training both at institution and concerned industries as per industries requirement.

These are some of the areas where Technical institution and Industries can work together for mutual benefit.

### 5. CONCLUSION :

In conclusion, it can be said not only that interaction of Industry and *Technical Institution* is desirable to mutual advantage and for self interest on

both sides but it is the need of the day and there are many areas in which the industry should come forward and collaborate with *Technical Institutions* in the interest of technical education.

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