

INDUSTRY-INSTITUTE INTERACTION

K. B. PANDE

1. INTRODUCTION

Industry-Institute interaction is one topic which, over the past few years, has been discussed at length at various forums. Both the industry and the institutes have always realised the importance and advantages of the wide-ranging interaction. However, they don't seem to have come close enough to launch joint programmes. There is no denying the fact that in these days of global competition, unless we produce quality products and delight our customers by doing something more than just meeting their expectations, we are bound to be wiped out. The same philosophy-albeit with a slight difference-holds good in the case of industry and institutes. In this case, the industry can be regarded as a customer, needing, among other things, quality manpower to produce quality and withstand the challenge of competition. It is, therefore essential that the engineering institutes add maximum value to their raw material (the students) and supply these 'value-added' engineering graduates to the industry. This value addition obviously helps both the institutes and the industry. The graduates from those institutes with maximum value addition will naturally be in great demand. By producing such

graduates, the institutes would certainly delight the industry. Whereas with the intake of such value-added graduates, the industry would be able to slash their training costs drastically. This is a significant gain for industry.

There are a number of ways to perform this value addition. However, both its usefulness and effectiveness will be maximum if the industry also joins the institutes in this task. Else, there is a danger of the whole programme resulting in a demotivating exercise not only for the institutes and the industry, but also for the students. Not only that, the exercise may also lead to a tremendous waste of expenditure. The ideal way to do that, of course, would be to launch some sort of a National Programme. Usually it takes an enormous amount of co-ordination to launch and especially, to sustain such National Programmes. The second best alternative would then be to initiate the interaction on a smaller and manageable-scale. This is precisely what we, at Forbes Marshall, have been doing for the past two years. We launched our interaction with a limited number of engineering colleges/institutes in Poona (covering specific areas of work), and ensured their sustenance all along. This has paid rich dividends.

Now that the ball has been set rolling, there is no looking back.

Readers will be interested in knowing the specific areas of interaction, where we have achieved excellent results, benefitting both the parties. The benefits that the industry accrues generally takes a little longer to be seen and felt. Nevertheless, the necessary investment in various forms has to be made that much earlier by the industry. The institutes, on the other hand, start receiving the benefits of such interaction relatively faster.

Forbes Marshall is doing its bit in this regard in the following ways :

1. We teach full courses on Heat Exchanger Design, Heat Transfer and Energy Conservation / Management at the post-graduate level, and also deliver formal lectures for the benefit of final year engineering students on special topics like boiler design, current trends in boiler instrumentation, energy-environment interaction, although these topics are not included in the regular undergraduate curriculum.
2. Very useful training-cum-demonstration programmes are held for teachers, in addition to practising engineers from industry, at our modern training centre. A live demonstration covering entire range of products related to steam engineering is held during such training programmes. We have also helped institutes set up their energy-efficiency laboratories.
3. Students from various engineering colleges visit our factories almost regularly. During these visits, our engineers take them around and explain to them the manufacturing and working of different products as well as where and how they are used.
4. Both the graduate and the undergraduate students from different engineering colleges are assigned sponsored projects on topics of mutual interest. During their projects/stay with us we believe in making them a part of our company. This results in students becoming familiar with how an industry operates, what an engineer is expected to do, and with various not-so-technical aspects like quality, commercial and purchase.
5. Through our interaction with colleges and University, we have provided assistance in restructuring the syllabi for different subjects, such that the contents are more industrially relevant. We have also framed the syllabi for new subjects to be introduced at post-graduate level, stressing heavily on industrial aspects rather than the theoretical. In fact the author is a member of the Board of studies in Mechanical Engineering as well the post-graduate Recognition Committee in Mech. Engg. of the Poona University.
6. Along with the experts from industry, we also invite on a regular basis eminent professors from different institutes to deliver talks for the benefit of our engineering personnel on state-of-the-art topics in areas of interest and relevance to us. We strongly believe that the engineering institutes have tremen-

dous potential to keep the industry abreast of the latest advancements in engineering and technology. Their involvement in design and analysis tasks is of immense value to the industry. We also recommend fairly senior teachers spending a good deal of time with us by being a working member of a project team.

7. We conduct workshops/seminars where, along with engineers from industry, teachers from engineering colleges are also invited. One such recent workshop, which was highly successful, was on Design of Heat Exchangers. Through such interaction, the teaching at the institutes becomes more industrially oriented.
8. We were involved to a great extent with a reputed engineering college in formulating the course contents and organising a part-time post-graduate diploma course in Piping for practising engineers. We taught and would continue teaching four subjects dealing with flow and piping-related instrumentation in this course.
9. In order to make students realise

the importance of working on projects of industrial relevance, we have introduced appropriate awards for the final year students (from three engineering colleges/institutes) successfully completing highly industrially-oriented projects in the field of steam engineering, energy and control and instrumentation. We have also associated ourselves with the ISTE Induction Training for college teacher by giving talks on topics like 'Curriculum Process and Industrial Relevance'.

There are numerous benefits of sustained industry-institute interaction. Only a few of them have been highlighted in this paper. In fact, the most significant outcome of such interaction is the capacity to work together with a view to tackling real-life problems that the industry faces. After all, we are working towards achieving common National goals, and as global competition becomes more fierce, there would be a definite need for the industry and institutes to work together. Only then can we produce international quality. It is, therefore, high time we took this interaction seriously.

★