

PRECEPTION OF POLYTECHNIC TEACHERS ON INDUSTRY INSTITUTE INTERACTION - A STUDY

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SYNOPSIS

The paper highlights the need for industry institute linkage and presents the perceptions of polytechnic teachers on industry - institute interaction. In the ultimate annalysis, the paper presents a scheme of education - work linkage for offering generalized diploma courses in civil, electrical and mechanical engineering,

1 INTRODUCTION

Technical education Isystem in India, whether at the college or polytechnic level, has been designed on the pattern of university education with little or no interaction with the world of work and has become a closed social system. The people within the system have cultivated the same attitudes and values as are usually seen in the universities. Majority of polytechnics (87%) are offering three year generalised diploma courses in Civil, Electrical and Mechanical Engineering. These courses are offered as fulltime institution-based courses, having more or less no linkage with the world of work. People working in the system consider education - work linkage as an important aspect but when asked to implement, raise many doubts like :

- (i) Will it be possible to provide training facilities for entire student population?

- (ii) Will industry cooperate in imparting meaningful training?
- (iii) Should a part of knowledge be deleted from the curriculum to spare time for industrial training?
- (iv) Who will plan, implement and supervise the industrial training component?

With the result, majority of polytechnics as stated above are functioning in complete isolation from the world of work.

On the other side, a survey of industries reveals that industry is accelerating the pace of modernisation in order to increase productivity, realise higher levels of production and to remain competitive on the basis of dual criteria of cost and quality. This calls for a continuous interaction of polytechnic education with the world of work to keep pace with industrial developments and to train human resource as per the needs of the industry.

Keeping in view the importance of such an interaction, a study was conducted to

obtain perceptions of polytechnic teachers working at different levels, to suggest a scheme of industry-polytechnic linkage, which is practicable and viable.

2. METHODOLOGY OF CONDUCTING THE STUDY

2.1 Preparation of questionnaire :

For obtaining feedback from polytechnic teachers, a questionnaire was designed. This questionnaire was validated by trying out the same on ten polytechnic teachers who were undergoing a short term course at TTTI, Chandigarh. Based on the responses of these teachers, the questionnaire was modified.

2.2 Target Group :

It was decided to obtain feedback from about three hundred polytechnic teachers in the states of northern region. The target group comprised of principals, heads of department, senior lecturers and lecturers. To cover the above target group, the questionnaire was got filled by polytechnic teachers undergoing different short-term courses at TTTI, Chandigarh, by personal visits to polytechnics (wherever was feasible) and through correspondence. In all, 252 polytechnic teachers' perception was obtained.

The break-up of different categories of respondents is as under:-

Total number of respondents	= 252
Principals	= 11
Heads of Department	= 36
Senior Lectures	= 86
Lecturers	= 119

Break-up of discipline-wise response is as under :

Civil Engineering	= 116
Mechanical Engineering	= 69

Electrical Engineering	= 45
Electronics Engineering	= 22

3 RESPONSE ANALYSIS :

The responses received from 252 polytechnic teachers were analysed against each query. A summary of this response analysis is presented below :

3.1 Existing linkage with the World of Work :

In response to question, whether polytechnic has any linkage with the world of work, 9.5% said 'yes'; 80% said 'no' and remaining 10.5% responded that there exists some linkage with the world of work. 20% of respondents indicated that the polytechnic sends students for industrial training during summer vacations; 5% indicated that some teachers take students for industrial/field visits and 10% of the respondents said that polytechnics invite professionals from the world of work for delivering extension lectures to the students. From above, it can be concluded that the existing linkage between polytechnics and industry is marginal. Interaction with some of the teachers while getting the questionnaire filled in, reveals that majority of polytechnic teacher have nothing to do with the above linkages.

3.2 Perception of polytechnic Teachers regarding Practical Training of Students

When asked whether there is need of imparting practical training during diploma courses, all the respondents (100%) were strongly in favour of imparting practical training.

In response to question, regarding the type of training, 94% of respondents were in favour of four weeks of structured and supervised, general industrial exposure, either during or after IVth semester. 75% of

respondents indicated that this training of four weeks should be organised during summer vacations after fourth semester examinations. 65% were in favour of providing general industrial exposure during the fourth semester itself either by revising the curriculum or taking one hour from each of the subject and making provision for four weeks of structured and supervised general industrial exposure.

When asked whether the project work being done by the students in final year should be related to the world of work, all the respondents were in agreement with this. 64% of them were of the view that live industrial problem should be given to students as project work and this should be done in the industry by putting them for eight weeks of industrial attachment during sixth semester. 65% of teachers suggested that this project work oriented industrial attachment should be done by utilising four weeks of winter-break and four weeks of time already provided for the project work. 25% of teacher responded that eight weeks of industrial attachment for project work should be provided by extending the sixth semester to four weeks.

In conclusion, it can be said that polytechnic teachers do appreciate that existing project work course should be linked with problems-solving activity in the world of work. A minimum of eight weeks time is required for this purpose. This industrial attachment of eight weeks be preferably provided in the beginning of sixth semester.

3.3 Planning and Implementation of Industrial Training:

The polytechnic teachers were asked whether it will be possible for the polytechnics to organise industrial training for all the students of second year and final

year?, 84% of respondents indicated that it is not possible to organise industrial training for all the students, at present. 75% out of 84% expressed that polytechnics do not have any mechanism to contact the industries. 60% expressed the fear that industry will not cooperate in providing training seats. Another 50% revealed that there is no industrial base near the polytechnics. 80% of respondents also expressed the apprehension that teachers would not cooperate in planning and supervision of students during industrial training, particularly during summer vacations, without any financial incentives.

When asked regarding percentage of students who can be sent for four weeks of structured and supervised general industrial exposure and eight weeks of industrial attachment for project work, majority of respondents (95%) expressed the opinion that at the most, 30% to 40% of students can be sent for above industrial experiences. When asked as how to engage the remaining students, majority of respondents (95%) said that they should be given polytechnic-based workshop/field training or drawing-based live industrial/community/ entrepreneurial project work in final year. Whilst having discussions with some of the teachers at TTTI, teachers expressed that though industrial experience cannot be compared with polytechnic-based practical training, but there is no other alternative also. It is not possible to secure training seats for all the students at first instance. Gradually, when polytechnics develop better understanding and image with the world of work, every year industrial training seats in the industry can be increased. A stage will come when all the students could be sent for industrial experience/training. Till that time the above methodology, is the only way out for promoting the much desired

For the purpose of involving polytechnic teachers for the planning and supervision of industrial training/experience (general exposure and industrial attachment for problem-solving), all the respondents indicated that facility of earned leave and provision of TA/DA at outstations be made to the teachers. 79% of the teachers said that in the case of placement of students in local industries, in addition to earned leave benefit, a lumpsum pocket allowance/honorarium @ Rs. 1,000/- to Rs. 1,500/- per month be paid to the teachers. In addition to above, polytechnic teachers expressed that the availability of transport facility at the polytechnics is a must.

To conclude, it can be stated that for proper planning and supervision of industrial experience of students, the involvement of teachers is a must. To motivate the teachers for active participation, facility of earned leave (if called during vacation), TA/DA provision for supervising students on day-to-day basis at outstations, or pocket allowance in case of local placement of students, is a must.

In addition to above, the polytechnic should also be provided transport facility.

4. CONCLUSIONS :

There are no two opinions that industrial experience to polytechnic students and teachers is a must to keep pace with technological developments and to develop appropriate abilities and attitudes in the students. Based on this opinion survey, the scheme of polytechnic- industry linkage, which emerges, is given in figure 1.

For proper planning and implementation of the proposed phases of industrial experience (see figure 1), involvement of teachers is very essential. When teachers are invited to work in summer vacations, benefits of earned leave, TA/DA facilities/pocket allowance is very essential for motivating teachers for their maximum contribution. The scheme requires an extensive planning, supervision and evaluation of students for an effective industrial training. Initially there would be some teething problems but with continuous efforts, there are greater possibilities of overcoming the hurdles.

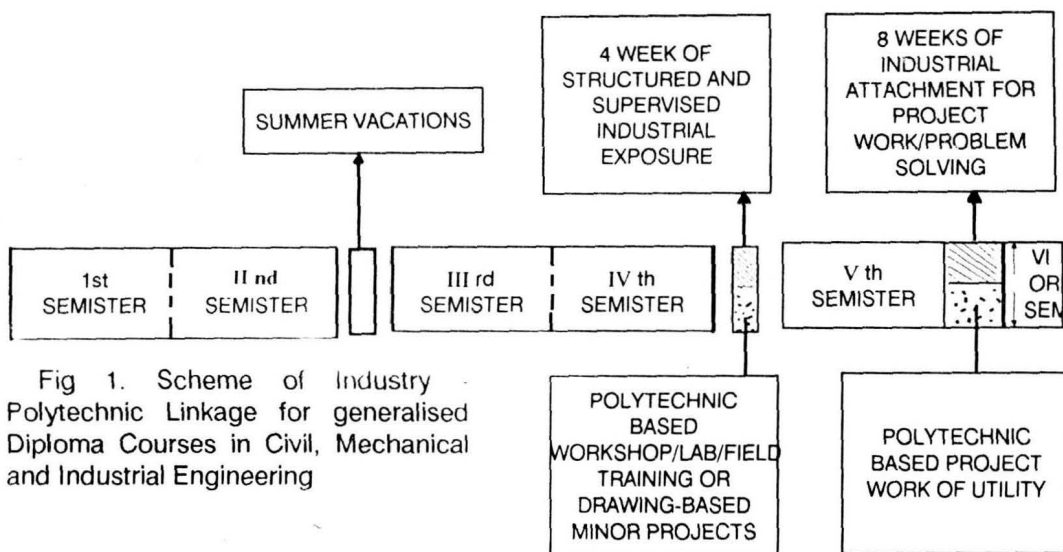


Fig 1. Scheme of Industry Polytechnic Linkage for generalised Diploma Courses in Civil, Mechanical and Industrial Engineering