A STUDY ON UTILITY OF INDUSTRIAL TRAINING OF POLYTECHNIC TEACHERS

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1. INTRODUCTION

The knowledge in Science and Technology is advancing at an accelerating rate. This has changed the Indian Industrial Scene and it is ever changing. Present passouts from technician education system are unable to cope up with the changing requirements of the industries.

Teachers are the backbone of the education. They are facilitators and catalytic agents to produce the right type of technicians required by the industries today and also for tomorrow. Therefore, they must be in touch with the changing requirements of the industries. This is possible with the continuous industrial training of polytechnic teachers. Presently there are two schemes available for industrial training of polytechnic teachers, they are :-

(a) Quality improvement Programme (QIP)

(b) World Bank Assisted Project (WBAP)

The success of industrial training lies in the fact that the trained teachers use the experiences gained during the training for the benefit of the students, institutions and industry.

A study on utlility of Industrial Training of Polytechnic Teachers was conducted by the authors during 1992. Following paragraphs describe the methodology and major findings of the study.

2. IMPROTANCE OF THE STUDY :

The study is very useful to the teachers undergoing industrial training programme, planners of the training programme, policy makers to effectively plan the programme and adminstrators to effectively implement the training programme.

3. DEFINITION OF UTILITY :

Utility is defined as the condition of being useful for improving the efficiency and effectiveness of instructional processes, developmental processes and promoting interaction with industry,

4. OBJECTIVES OF THE STUDY :

4.1 To determine the utility of industrial training as viewed by the teachers trained in industry and teachers not trained in industry in the following areas :-

(a) Instructional processes.

(b) Developmental processes.

(c) Promotion of interaction with industry.

4.2 To determine the actual extent of achievement of teachers trained in industry in areas mentioned in 4.1

4.3 To determine the weakness/short comings in the industrial training programme.

4.4 To suggest ways and means to improve the industrial traininng programme and its utilisation for polytechnic teachers.

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5. LIMITATION :

The study was limited to polytechnics of Madhya Pradesh and on Civil, Mechanical and Electrical disciplines.

6. REVIEW OF RELATED LITERATURE :

The comprehensive review of related literature and improtant findings of the various seminars, conferences, researches were referred. The review of related literature was helpful for developing and standardizing the research instruments and conducting the study.

7. METHODOLOGY

It is a descriptive type of research. All the 26 boys-polytechnics of Madhya Pradesh were considered for the study. Out of them nine polytechnics were visited by the researcher and questionnaire was mailed to remaining polytechnics. 18 polytechnics responded to the study.

8. POPULATION

Teachers of Civil, Mechanicsal and Electrical Engineering were considered for the study from the polytechnics of M.P.

9. SAMPLE

Teachers were classified in three categories i.e. teachers trained under QIP scheme. Under WBAP and not trained in industry. Stratified random sample was selected from each polytechnic. The actual sample size was as follows :-

Teachers trained under WBAP	13 Nos.
Teachers trained under QIP	13 Nos.
Teachers not trained	40 Nos.
Experts from various polytechnics interviewed	16 Nos.
Experts from various industries interviewed	13 Nos.

10. Instruments :

Set A Comprising of :-

(a) Three point rating scale to determine the utility of industrial training on 25 indicators.

(b) Structured open questions to determine the short comings/weakness of the training programme.

(c) Open ended questions to determine the achievement after industrial training and

(d) Ways and means to improve the training programme. This set was meant for teachers trained in industry.

Set B Comprised Of :

Three point rating scale to determine the utility of industrial training on the same indicators mentioned in Set a., was used for untrained teachers.

INTERVIEW SCHEDULE - 1

Comprising of open ended questions relating to polytechnic experts views, on objectives of training, resources available in the institution, ways of utilising the experiences of training, frequency and duration of training and their suggestions to improve the efficiency of training programme, were prepared.

INTERVIEW SCHEDULE - 2

Comprising of open ended questions relating to industry experts views, on planning of training, objectives of training, ways of learning in industry, ways of imparting training, ways of assessing the performance and their suggestions to improve the efficiency of training programme.

11 FINDINGS

11.1 Teachers perceived high utility of industrial training in instructional processes, average utility in

developmental processes and promoting interaction with industry.

Suggestion

Developmental processes and promoting interaction are important areas for mutual benefits of the institution and industry; hence, more emphasis should be given in these two areas during training.

11.2 Teachers not trained in industry view high utility of industrial training, if they are given an opportunity to undergo industrial training programme in instructional processes, developmental processes and promoting interaction with industry.

11.3 The actual use of experiences of industrial training made by teachers in their institutions is almost negligible except in instructional processes.

Suggestions

The success of industrial training lies in the fact that the trained teachers use the experiences they have gained for the development of students, institution and for the benefits of the industry. The teachers also mentioned that the experiences they have gained are of high or average utility in all the three areas.

Teachers should have self interest in utilising the experiences. The management of polytechnics should also see that the teachers use the experiences for the benefit of the students and institution. Management should encourage and provide all the possible resources to teachers for utilising experiences. Otherwise the great effort put in and money spent on industrial training of teachers will go as waste and no significant imporvement will be brought in the polytechnic education through industrial training.

11.4 More than 50% teachers are satisfied with different types of industrial training. Remaining teachers mentioned the following major shortcomings/weaknesses.

a) Training was not related to subject they are teaching

b) Duration of training was not related to industrial practices

c) Curriculum is not related to industrial practices

d) Some industries do not extent full cooperation

e) Monitoring of the training was poor.

f) Lack of environment and resources in the institution to utilize the experiences gained in the industry.

g) Experts from industry also mentioned that teachers do not come with specific objectives. The duration of training should not be fixed. There is a big gap between curriculum and indistrial practices.

11.5 Major views and suggestions of experts from polytechnics, industries and teachers trained in industries to improve the efficiency and effectiveness of industrial training programme of polytechnic teachers are mentioned below.

a) Objectives of training should be clearly formulated and circulated to industry well in advance.

b) Placement should be in the industry of teacher's choice

c) Training should be well planned.

d) Guide should be provided during the training.

e) Effective and continuous monitoring should be done.

f) Duration of training should be flexible according to needs.

g) Assessment should be jointly done by industry and institution.

h) Curriculum should be revised.

i) Minimum required facilities should be provided during the training.

j) Positive environment should be developed in the institution for

industrial training and utilising of its experience.

k) Teachers must take interest to utilize the experiences gained in industry.

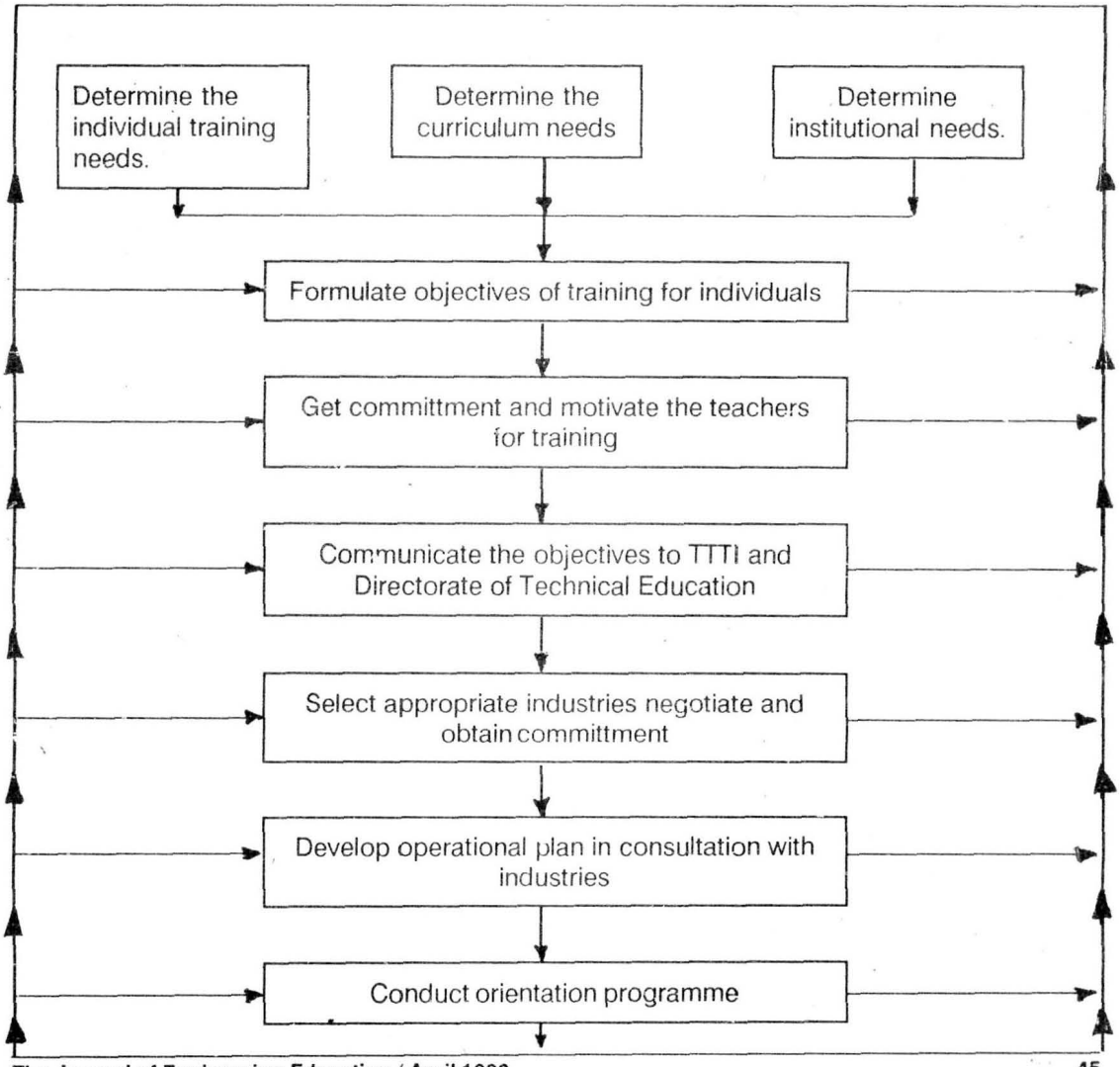
12. Recommendations

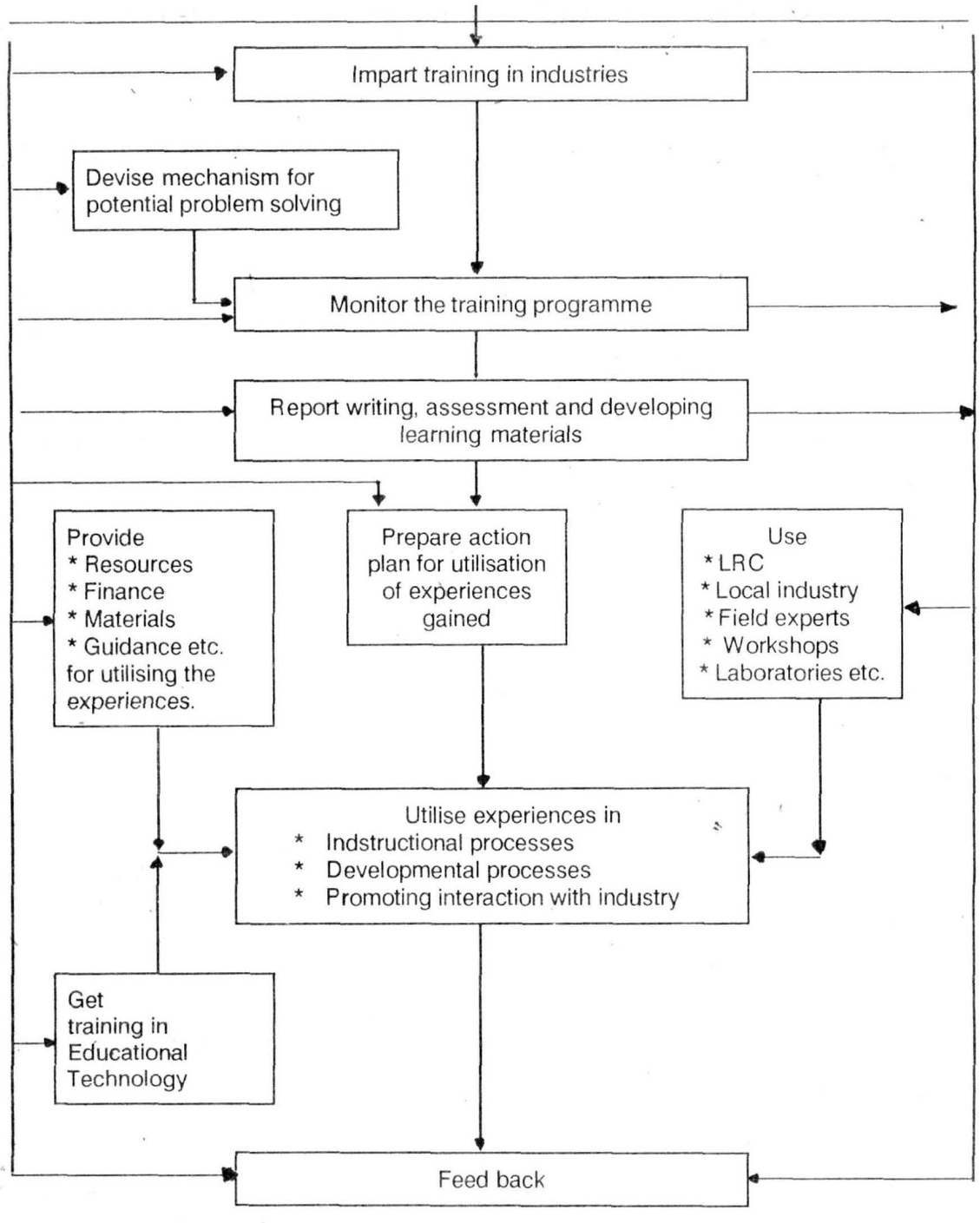
The following recommendations are made by the teachers based on the findings of the study.

12.1 Industrial training must be compulsory and continuous for every teacher according to individual needs and requirements.

12.2 Fresh graduates joining the polytechnic as teachers faculty should be trained in industry for 3 to 6 months.

12.3 The researchers have developed a systematic approach for industrial training and utilisation of its experiences in polytechnics based on the findings of this study. While implementing the suggested approach the major findings of the study, views and suggestions given by various experts should be taken care of. The proposed model of industrial training and utilisation of its experiences is given below:-





SYSTEMATIC APPROACH FOR INDUSTRIAL TRAINING AND UTILISATION OF EXPERIENCES

CONCLUSION

Today percentage of teachers having industrial exposure is less. Many old and new teachers required industrial exposure. The model developed by the researchers if implemented in right sprit will go a long way in improving effectiveness and efficiency of the training. This, in turn, will improve the instruction processes and developmental processes in the polytechnic system and also intensify its interaction with industry. This will definitely lead to the improvement of quality of passouts which is the major focus of World Bank Assisted Project.

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