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# ROLES OF VARIOUS AGENCIES IN THE TECHNICIAN EDUCATION SYSTEM FOR PROMOTION OF CONTINUING EDUCATION OF WORKING PERSONNEL

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## 1. INTRODUCTION

In view of the 'knowledge explosion' and the rapidity with which technological transformations are taking place in industries, the technical personnel therein need to continuously update their knowledge and skills. The workforce in industries and their managements look forward for programmes which could fulfill this need of theirs. In addition, the working personnel must have opportunities both for horizontal and vertical mobility from the point of view of their career advancement and also for adopting to the changing manpower patterns within industries.

It is no longer possible for any one - shot educational process to prepare a person for any occupation on a life long basis. Therefore opportunities have to be provided at frequent intervals to enable working personnel to update their knowledge and skills.

## 2. NEED

The requirement of Continuing Engineering Education [CEE] and training for the working personnel therefore becomes imperative for -

- i] Updating/upgrading the knowledge and skills gained during their studies.
- ii] Extending the knowledge and expertise into established as well as emerging technologies.
- iii] Preparing for wider responsibilities in engineering and management fields.

iv] Enabling one to appreciate the impact of engineering in society and to play one's full role in the profession and in society at large.

Need for organising continuing education programmes therefore exists in the engineering professions all over the world, which now stands at the threshold of twentyfirst century and is facing a very demanding environment.

According to a rough estimate, in our country, there is a turnover of about 65000 technicians, 30,000 graduate engineers and 7500 post graduate engineers annually. In addition to this there is a backlog of more than 1.5 million technocrats who require updating/retraining at regular intervals. Multipronged strategies, therefore, need to be adopted to meet this task which is quite challenging for a developing country like ours. Organising and conducting continuing education programmes for the technical manpower is the need of the hour.

## 3. GOVT. OF INDIA'S INITIATIVE FOR STRENGTHENING CONTINUING EDUCATION OF TECHNICIANS THROUGH WORLD BANK ASSISTED PROJECT

In order to give concrete shape to these ideas in consonance with the National Policy of education [1986], and subsequent 'Programme of Action' almost all the states in the country have established or are in the process of establishing Continuing Education

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Centre [CEC] at the state level and Continuing Education Departments [CED] at the identified polytechnics of the state. This thrust which is planned under the World Bank Assisted Project for strengthening Technician Education is aimed at -

- Assessing continuing education needs of personnel working in industries and other allied organisations.
- Designing and developing relevant courses for the target population.
- Organising and conducting courses to enhance knowledge and skills of working personnel in established as well as emerging technologies.

This endeavor is to be taken up by the polytechnics in a coordinated and well organised manner. In addition in each state Curriculum Development Centre [CDC] Learning Resource Development Centre [LRDC] and Industry-Institute Interaction Centre [I I I C] are being set up centrally and Industry-Institute Interaction Cells [I I I C's] and Learning Resource Utilization Centres [LRUCs] are being set up in various polytechnics. These are expected to assist the CEC and CEDs in this endeavour.

#### **4. ROLES AND RELATIONSHIPS OF VARIOUS AGENCIES**

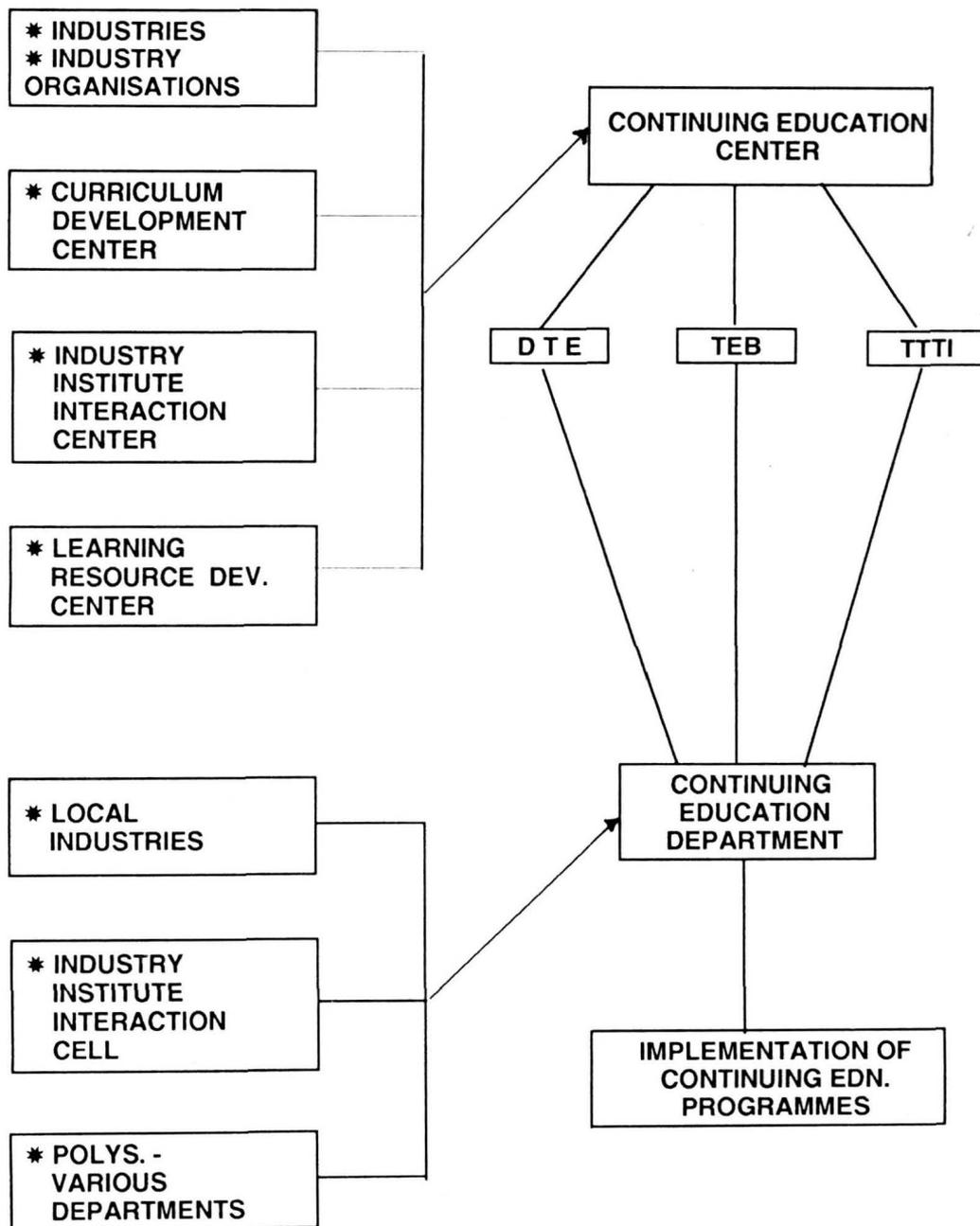
Continuing Education Centre [CEC] and Continuing Education Departments [CEDs] are administratively linked with Director of Technical Education and academically with Board of Technical Education. Over and above this CEC and CEDs will have to maintain direct and indirect links with many agencies like TTTI, industry, students, experts and trainees. Also CEC will have to maintain close coordination with CDC, LRDC and I I I C. Similarly CEDs will have to maintain close coordination with Industry-Institute Interaction Cells in polytechnics. In view of the complexity of relationships, some clarifications of roles of various agencies is necessary with regard to Continuing Education Programmes.

Though it is not possible to define these

roles very precisely, some major roles as perceived have been delineated for various agencies in the system. Linkages of CEC and CEDs with other agencies are shown in figure : 1.

#### **4.1 Roles of Directorate of Technical Education [DTE] / State Project Implementation Unit [SPIU]**

- Administration and direction to all CEC activities.
- Providing necessary infrastructure and resources, including allocation of funds for smooth functioning and future growth of CEC.
- Arranging for necessary administrative and financial sanctions.
- Timely approval of various proposals and support of all the steps involved.
- Providing guidance for future development
- Providing norms and guidelines for conduct of CE programmes, and collaborating with other agencies in CE related activities.
- Assigning overall responsibility of managing and organising continuing education programmes in a polytechnic to the Principal. Principal is advised to give different assignments to the various HODs, TPO, Coordinator CED etc.
- Monitoring & evaluating the progress of the project.
- Providing guidelines for getting faculty trained for conduct of CE programmes and other CE related activities.
- Establishing linkages with TTTI and other agencies for training and guidance.
- Providing autonomy [financial & academic] to institutions for day-to-day working for the sake of smooth running of the project.
- Providing link with Central Govt., State Govt. and other Govt. agencies.



**Fig. 1, LINKAGES OF CONTINUING EDUCATION CENTER AND DEPARTMENTS WITH OTHER AGENCIES**

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#### **4.2 Roles of Technical Education / Technical Examination Board [TEB]**

- Preparing curriculum for programmes requiring certification.
- Providing approval to institutions for running such programmes.
- Academic monitoring of programmes.
- Conducting examinations and issuing certificates.

#### **4.3 Roles of Continuing Education Centre In The State.**

- Identification of needs of industries for launching CE programmes in collaboration with CEDs and supplying this information to all CEDs.
- Development of curriculum and supplying these to polytechnics.
- Coordination with Continuing Education Departments in polytechnics for implementation of the scheme.
- Examining and certification for credit courses through TEB.
- Building up data-base about availability of courses and expertise, and supplying this to institutions.
- Preparing annual calendar for conducting CE programmes, and informing prospective employers and participants.
- Preparing action plan for continuing education project.
- Establishing linkages with industry, research bodies, professional bodies etc. for identifying their needs and getting experts for developing curricular and course material and for sponsoring participants for the programmes.
- Keeping close liaison and coordination with curriculum development centre, learning resource development centre, industry-institute liaison centre etc. for various activities.
- Monitoring the implementation of the

Continuing Education Programmes and taking necessary initiatives to improve the effectiveness of the programmes.

- Getting learning material prepared, and supplying it to the institutions for dissemination in the Continuing Education Programmes.

#### **4.4 Roles of Continuing Education Departments In Polytechnics**

- Identification of needs for launching continuing education programmes by conducting surveys etc. in the vicinity of the Institutions.
- Development of course content in consultation with CEC.
- Devising and launching programmes as per needs.
- Identifying suitable faculty/experts from own institution, other institutions and industry.
- Marketing continuing education programmes.
- Identifying and selecting participants.
- Establishing linkages with local industries and other organisations for identifying their needs, getting participants for the programmes, and experts for conducting programmes.
- Organising and conducting programmes.
- Evaluating the performance of participants for credit programmes.
- Recommending CEC/BTE to award certificates to participants for credit programmes.
- Awarding certificates to participants for non-credit programmes.
- Evaluating the programme, and using the data for improving future programmes.
- Preparation of learning materials in areas in which polytechnics has expertise and supplying this to CEC
- Establishing linkages with institutions

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and organisations engaged in similar activities.

- Collecting information about availability of courses, experts etc. and feeding this information to central data base in CEC.
- Developing mechanisms to get periodical feedback from user systems.
- Work as nodal points for organising continuing education programmes in association with other polytechnics.

#### **4.5 Roles of other Polytechnics [where CEDs are not being established at present.]**

- Assisting in conducting need identification
- Working as extension centres for CED located close by
- Maintaining close contact with CED located in the vicinity
- Assisting close by CED in various activities.

#### **4.6 Roles of Curriculum Development Centre**

- Assisting CEC and CEDs in developing curricular for continuing education programmes as per industry needs.
- Assisting CEC and CEDs in identifying print and non-print materials for continuing education programme.
- Assisting CECs and CEDs in developing learning materials.
- Assisting in formative evaluation of curriculum of continuing education courses.

#### **4.7 Roles of Learning Resource Development Centre**

- Assisting in development of print and non-print materials for continuing education programmes.
- Supplying learning material including multi-media packages to CEC and CEDs.

#### **4.8 Roles of Industry - Institute Interaction Centre/cell**

- Assisting in identification of needs of industries, marketing of programmes and identification of industry experts for various activities.

#### **4.9 Roles of Technical Teacher's Training Institutes [TTTIS]**

- Assisting states in preparing guideline documents for launching continuing education programmes.
- Assisting directorate, CEC, CED and other polytechnics in all activities related to launching and promotion of continuing education.
- Conducting training programmes for personnel working in the area of continuing education.
- Conducting updating programmes in some areas for developing polytechnic faculty for conducting similar programmes.
- Preparing and supplying learning packages in some areas.
- Suggesting experts in those areas where experts are not available locally during conduction of continuing education programmes.
- Providing a platform for Directorate, CEC, CED, industry, industrial associations and organisations interested in continuing education for exchange of ideas/sharing of views etc.

### **5. FUNDING OF CONTINUING EDUCATION PROGRAMMES.**

Continuing Education Programmes are of self-supporting nature and all the expenditure incurred in the various activities of the programme is to be met from the revenue received as registration/course fees of the participants. This premise presupposes that developmental cost is very little. This means that institution is using learning material prepared by some other agency without much change. Also this

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assumes that there will be an assured participation of some minimum number of participants. However, it may happen that a course is announced and expenditure incurred on that count, there is no encouraging response from the targeted population. In such a situation, programme may have to be cancelled or postponed. To set the ball rolling, there must be some sort of 'reserve fund' or 'seed money' for mounting continuing education courses in the initial phase. This 'seed money' must be provided to the polytechnics undertaking these programmes. The initial expenditure done could be met from this fund till such time the amount is collected through registration of participants.

It is just possible that some programmes may end up in loss. Such exigencies could also be met from the reserve fund. However, to sustain this thrust, it is necessary that most of the proposals are economically viable. That depends upon the ingenuity of the persons organising programme, how much aware and sensitive they are about the needs of their clients and how much support, cooperation and participation they are able to secure from the client organisations.

In addition to this, there are some governmental agencies which give grant for organising seminars, workshops, conferences, courses for promotion of science and technology. The possibility of

getting financial assistance from such agencies for organising continuing education programmes could also be explored.

## 6. CONCLUSION

Continuing Education of personnel in industry is the need of the day. Polytechnics can work as effective and inexpensive providers of the continuing education. Once polytechnics take up this activity, they will discover that they are utilizing intellectual capability of their faculty for a very important activity. Both industry and institution will benefit from this activity. Institutions can generate resources/revenue by use of surplus capacity of institution which remains unutilised.

Under the World Bank Project for strengthening Technician Education, Continuing Education Centre is being set up in the states for coordinating this activity. Also Continuing Education Departments are being set up in identified polytechnics for launching continuing education programmes. An attempt has been made in this paper to spell out the roles, responsibilities and relationship of the various agencies involved in this mission. There might be some overlaps as their demarcation is not feasible like water-tight compartments. It is hoped that this clarity will result in better functioning of these agencies which are determined and committed to make a mark in this mission.

