

ROLE OF TECHNICAL INSTITUTIONS IN ESTABLISHING IDENTITY OF A DIPLOMA TECHNICIAN

* D. S. KULKARNI

** S. Z. DANDOTI

INTRODUCTION :

The rapid modernization of industry in the wake of economic liberalization has made it essential to build technical manpower familiar with the new technologies. The machines are becoming sophisticated day by day, electronic components and microprocessors are used in many modern machines. This has increased the need for new maintenance skills in technicians. The industry wants technicians with new knowledge and skills to look after these modern machines.

With emphasis on export oriented product development, TQM, ISO 9000, Just-in-Time, Eco-friendly products and processes, pollution reduction, microprocessors, on-line product checking, energy saving or energy management etc., these should be thoroughly understood and imbibed on the minds of fresh technicians. The technical institutes have now to prove their usefulness to the industry by providing technicians with these new knowledge and skills required by the industry.

In view of the changing working environment of technicians, resulting from the induction of new and emerging technologies in the industry, the knowl-

edge and skills required by the technicians have to be assessed from time to time and the curriculum and programme structure modifications needed have to be effected so that the technicians can establish their identity and status in the hierarchy, where they are placed.

The industry and polytechnic are normally out of tune with each other. Persons in industry express their discontent regarding the quality of polytechnic passouts. They are of the opinion that the knowledge and skills imparted in the polytechnics do not have relevance to the needs of the industry. The result is that industry has to retrain passouts before they can be of value to industry.

It has therefore become, necessary for technical institutes to provide quality technicians to the industry. This can be achieved through greater interaction and close coordination between technical institutes and industry.

I. STATUS OF DIPLOMA TECHNICIAN IN INDUSTRY :

Diploma engineers work in industry as "technicians" at supervisory level. They are quite important to the indus-

* Head Deptt. of Textile Manufactures, Govt. Polytechnic, Solapur

try on account of their acting as link between the engineer and the workmen. Presently some of the job positions for diploma technicians in the industry are encroached by skilled craftsmen as well as degree engineers. This happens because the role of diploma technician in the industry is not clearly defined. Similarly the exact requirement of diploma technicians for specific jobs should be stated.

II. LINKAGES OF POLYTECHNIC WITH DIFFERENT CONSTITUENCIES :

According to Multiple Constituency Theory, the polytechnic can be considered as a Role incumbent/Role holder having different stakeholders/constituencies. Each stakeholder has different expectations from the Role holder. The most significant stakeholder of a polytechnic is the industry. The industry has got different expectations from polytechnic.

LINKAGES WITH INDUSTRY :

1. Identification of job potential in industry in disciplines offered in the polytechnic.
2. Skills required by passout in industry.
3. Continuing education needs of industry.
4. Capacity of industry to impart training to faculty/students.
5. Testing/consultancy facilities available in the polytechnics.
6. Information about technical expertise in industry for curriculum design, implementation and review LRDC.
7. Information about technical expertise within polytechnic of use to industry.
8. Campus interviews.
9. Educational tours/industrial visits.
10. Marketing polytechnic physical resources.

Generally functioning of a polytechnic is governed mainly by the decision making process involved at Directorate of Technical Education and Board of Technical Examination in the states. The heavy centralization of decision making at the state level gives no authority to polytechnics for taking major decisions in its working. The consequence is that the polytechnics cant respond effectively and in tune with local demands and needs of industries and to crisis situations. Polytechnics also find it difficult to pursue their own ideas for change which normally appear to emanate from the governing agencies at the state or central level. It appears that the present extent of decision making autonomy available with the polytechnic is inadequate and needs to be augmented.

For qualitative and quantitative improvement in the technician system as a whole, it is necessary that polytechnics with high motivation are encouraged to freely engage in the individuals and individual institution. Polytechnics having competent staff who can take responsible decisions about the changes without waiting for the decisions from the top can be granted autonomy. Autonomy is therefore a pre-requisite for growth and development of polytechnic and in performing its role in matching their products with the industrial requirements.

industry is changing from single product small industrial units to big complex units with diverse products. The technology is being upgraded by suitable introduction of mechanisation to replace human labour automation through computerised and other electronic devices and new types of materials replacing the old one.

Modernization of polytechnics with respect to space, equipments, class-room teaching, library facilities and workshops is equally important for improving implementation of modern curriculum contents. Institutes should be able to expose the students to the latest equipment and processes that are currently being used in the industry, should be properly equipped with class-rooms and laboratories with better communication and projection of media.

8. Conclusions :

With the new era of globalisation and liberalization of Indian economy, there is need to have rethinking on technical education. With new economic policy, large investments in the industries have taken place during last couple of years. It is envisaged that there will be substantial growth in the near future and hence there would be need for a large technically qualified workforce to man the new industrial units. With foreign

investment and collaboration modern technologies will flow at a faster rate than hitherto.

As far as the number of technicians/ technically qualified personnel is considered, perhaps there will be no dearth, as during the last decade many polytechnics have sprung up.

However, with the changed situation the quality of technicians to be turnout from polytechnics will require a change. This needs restating the role of polytechnic in matching their products to industrial/job requirements.

ACKNOWLEDGMENTS :

The authors wish to express their sincere thanks to Prof. M. N. N. Murthy, Principal, Govt. Polytechnic, Solapur for his kind permission to publish this paper.

REFERENCES :

1. DANDOTI, S. Z. "Identification of skills and developing a programme structure for diploma in Textile Manufacture" Thesis of M.Tech.Ed.
2. MITTAL, L. N. "Organization of Training & Placement Services in the Polytechnics".
3. MAHASHABDE, R. S. & KAPSE, V. M. "Introduction of Flexibility in Technician Education Programme" A monograph.



ANALYSIS OF FUNCTION OF TECHNICIANS

Functions of Technician	Learning at the Polytechnic	Training in Industry/Field
* Data collection/surveys	basic principles of data collection	Applied skill development
* Testing materials/equipment	Learning procedures and precautions	Handling specialized equipment, testing, report writing
* Design simple components/structural elements	Principles of design, factors contributing and designing simple components	Designing from whole to part
* Construction production planning and management at middle level	Principles of Planning and Management	<ul style="list-style-type: none"> - Time motion study - Scale of operation - Assembly line study - Shopfloor/construction Management
* Supervision of production/construction process	Knowledge regarding machines and process	<ul style="list-style-type: none"> - Operation of specialized machine - Different types of materials and processes - Study of working drawings - Specifications - Quality Control Operations - Selection of equipment and processes
* Quality Control Operation	Knowledge of quality control operations	Practice of quality control on various types of products/works
* Labour Management	Knowledge of Labour laws	Psychology of workers and their habits, attitudes and approach of problem solving
* Understanding repair and maintenance of operations	Procedures of repair and maintenance	Actual repair and maintenance, fault finding techniques, and related procedures for rectification
* Ensuring Safety	Safety procedures	Safety practices