

CURRICULUM DEVELOPEMENT FOR POLYTECHNIC EDUCATION

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SYNOPSIS

A relevant curriculum for Technician education has been proposed. The role of Industrial training, practical based approach and practice school/sandwich programme has been highlighted. The importance of shifting to semester from annual pattern has been discussed. A model structure of syllabus for diploma course has been proposed. It has been suggested that examination pattern should be changed and emphasis should be given on internal progressive assessment.

Preamble - Professional education is a continuous process of learning through systems of rules enhancing mental and moral capabilities to produce adaptable behaviour and balanced personalities. The activities necessary to produce successful professional are --

- (a) Curricular activities,
 - (b) Co-curricular activities,
 - (c) Extra curricular activities,
- (a) Curricular activities are related with Academic activities. These are most important activities for students in their mental development, irrespective of examining body.
- (b) Co-curricular activities take care of outdoor exposure of the students. These include industrial visits/training/vacational training/seminars/workshops/symposium/convention and placement of students.

- (c) Extra curricular activities are required for physical fitness, mental health, creativity and balanced personality. In other words, it can be said that extra curricular activities take care of physical and emotional stability of students.

The paper aims at formulating a model Technician education system expected to serve as a remedy to the prevailing illness of the existing system.

Curriculum development a review -

There are two extreme views about education. One of Elitist who says 'Education should develop the best minds in the community to the utmost and has the responsibility to undertake research aimed at extending the frontiers of Knowledge'. On the other hand Relevantalist says that 'Education should train a Nation's youth responsible to Society and for the Management of industry,

including the development of new process needed to improve our standard of living. The thought of Relevantalist seems to be more obvious to all developing countries and particularly for technical manpower needed by the industries of our country.

When one considers the appraisal of existing curriculum of technician education one has to examine the following three areas-

- (i) The curriculum - This is broadly what is learnt and taught and how it is learnt and taught.
- (ii) Education Technology - The method with particular emphasis on individualised learning.
- (iii) Assessment - This comprises of assessment of individual based on curricula and its technique.

In defining the context of curriculum for technician education, one has to consider the following aspects.

- (i) What are general and specific aims & objectives of Technician education ?
- (ii) Which parts of technician education are most relevant to these aims and objectives ?
- (iii) What are intellectual and material possibilities ?
- (iv) What are to be learnt ?

If above parameters are applied for the valuation of Syllable of Technician Education being implemented in our country, following deficiencies surface out :

- 1 Curricula were prepared many years before.
- 2 The syllabi are not fully defined,
- 3 New developments are not incorporated,

- 4 Lacks in establishing linkage in theory & Practice
- 5 Lacks in development of technical skills,
- 6 Lacks practical bias,
- 7 Lacks in entrepreneurial education,
- 8 Based on annual pattern,

Sufficient work has been done in our country and elsewhere to remedy the above analogies in the existing pattern of Technician education. As an outcome of the studies conducted the following remedial measure have been suggested.

The recommended measures include giving maximum time for practical and improvement system and assessment.

Semester pattern

As stated above technician requires regular interaction with teacher and taught. However, the polytechnic education in India is still on yearly examination basis which lacks the following merits :-

- (1) Teacher thinks that there is sufficient time to cover the course and goes slowly in the beginning. However, in the end when he realises that time is running short, he moves with jet speed while students are not able to cope up with his speed.
- (2) Students think that there is sufficient time to study and do not concentrate fully on study.
- (3) The same reasons are applicable to practical classes. This results in increased work load at the end of year both for the teachers and the taught.
- (4) Lacks proper co-Ordination on the part of teachers and students.

To overcome the above disad-

vantages of yearly systems it is proposed to shift to semester system which has the following advantages --

- (1) The whole curriculum is well defined, compact, self content, topics, to be studies and completed in a semester. This helps the students in full understanding and relieved students accumulation of burden of push it inside and bring on the same platform of one year pattern.
- (2) In the semester system progressive assessment is expected. This will keep the students always motivated and provide a pace of continuous learning.
- (3) Importance of end examination are reduced, hence continuous learning takes place with out fear of fobia of end examination.

On examination of the above merits and demerits, it seems that it will be worth while to shift to semester system.

Assessment --

After examining the merit of semester pattern. It will be proper to recommend a pattern of assessment (examination) which can be healthy pattern as follows :

The question paper should be set in a manner, which has essentially the elements which are listed in Table - 1

Table - 1

Essential Elements for Examination (EEE)

Sr.	Element	Weightage
1.	Objective type of question	25%
2.	Mathematical question	30%
3.	Descriptive question	20%
4.	Short question	25%

Besides end examination, students should continuously be assessed by the teachers concerned. The internal assessment must be given due weightage. The ratio of external to internal assessment should be 3:2. The separate passing in the external and internal examination shall be must. If a student fails in internal examination, he should not be permitted to appear for external examination. The passing marks for internal should be 50% and that of external 40% in each and every head of passing. The practical examination for other years except the final shall be internal. There shall be minimum 3 internal examinations and average best two of them shall be considered., the minimum passing marks for internal practical examinations should be 60% and external examinations 50%.

It is felt that the present polytechnic education has reduced to "Crame & Vomit", To get rid of this system, it is recommended that polytechnic education should be practical wised. the practical upto extent of 60% of the curriculum should be introduced.

This could be achieved by following system --

1. Sandwich programme at the end of each year utilizing the time of summer/winter vacation.
2. Sandwich programme at the IInd & 6th Semester.
3. Introduction practice school programme in two phases :--
 - a) At the end of 6th Semester during Summer/winter vacations. It should be termed as Practice School I.
 - b) Practice School II whereby 50% student will go to industry and remaining 50% will remain in the

Institute. In the 8th Semester the students who had gone to industry will come back to the institute and those who were in the institute will go to institute.

4. Practice School Programme for Teachers/Students must be made compulsory.

Entrepreneureship development

After passing our polytechnice education students are more energetic, quite young and ready to accept challenge of the life. If at this stage they are exposed to entrepreneurship techniques, they may prove to be a better entrepreneurs at later stage. It has been observed, that after getting advance education (entrepreneureship) the resistivity of the students is reduced and so to mould them as a good entrepreneur is not difficult.

For this purpose, the concept of entrepreneureship must be introduced among the students of polytechnice while they are studying. This can be achieved by introducing a course at 8th Semester named as "Entrepreneureship Development & Production Management".

Conclusion

1. The need for change in curriculum has been emphasised. The merit/demand of the present syllabus has been discussed and model syllabus has been proposed.
2. It has been justified to shift to Semester system from the yearly pattern.
3. The present examination needs drastically overhauling, and as such a new examination pattern with items to be included in the answer papers has been suggested. It has also been suggested that due weightage should be given to internal evaluation.
4. To make students most useful for becoming self-entrepreneur more emphasis should be given on practical training/practical school programme.
5. Emerging fields of Science & Technology should be included to take care of the recent development.

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