

CURRICULUM EVALUATION OF TECHNICIAN COURSES.

* Prof. L.N.Mittal ** Prof. A.L.Jain

SYNOPSIS

The purpose of this paper is to share some experiences on curriculum evaluation and revision. It has been experienced that curriculum revisions are affected by making minor modifications in the course contents rather than following a scientific procedure. The paper, therefore, differentiates between curriculum evaluation and revision, briefly describes the team for curriculum evaluation and what to evaluate from whom. Strategy and time frame for curriculum evaluation and revision are also discussed briefly.

1. INTRODUCTION

Curriculum needs to be considered as being dynamic and should be under constant review and constantly undergoing changes. It should be more so in the technician education system, since the changes in technology and the consequent changing demands from industry are much more rapid. As defined by Stufflebeam (1971), "curriculum evaluation is the process of delineating, obtaining and providing useful information for judging decision alternatives". The purpose of curriculum evaluation is to:

- ✧ Determine difficulties and identify problem areas for facilitating decision making;
- ✧ improve the educational processes and programme;
- ✧ improve the ability of the faculty and administrators to plan and effect improvements in the educational system;

Evaluation requires the development and use of systematic procedures to determine the value and appropriateness of goals, policies, functions, procedures and relationship of a system and its sub-systems.

On the other hand 'Curriculum Revision' is the process of bringing improvement and modifications in the educational system as a result of feedback received through curriculum evaluation process.

The process of curriculum evaluation and revision is not simple. It needs education and training to every person interacting in the educational system in the principles of curriculum design, development and implementation. The process of curriculum evaluation involves considerable time and requires indepth study of the same. The evaluation can be done in respect of a single institute or state or the region as a whole. It can be continuous or periodic or both. It can be done either by an external team or an internal team or both.

2. WHO SHOULD DO CURRICULUM EVALUATION?

Evaluating an educational system is not a one man responsibility. The evaluation team should comprise of representatives from administration, faculty of the institute which implemented the curriculum, experts from industry and curriculum development

* Prof. Information Management & Coordination at T.T.T.I. Chandigarh.

** Prof. & Head Curriculum Development at T.T.T.I. Chandigarh

centre. The team should clearly lay down the objectives of curriculum evaluation. For evaluating the curriculum, evidence must be collected from all the elements reacting with each other in the educational system, viz:

- a) Employers
- b) Technician students who have just completed the studies
- c) Technicians who are in employment and have undergone studies through the curriculum under evaluation
- d) Faculty
- e) Head of the institution
- f) Directorate of Technical Education/ Board of Technical Education
- g) Society/Community

3. WHAT TO EVALUATE AND FROM WHOM?

3.1 From Employers

The following information can be obtained from employers:

- 3.1.1 Consistency of curriculum aims with the needs of industry (present and future)
- 3.1.2 Employability of students and their training requirements
- 3.1.3 Functions of technicians (present & future)
- 3.1.4 Job adaptability and mobility
- 3.1.5 Wages and salaries of technicians
- 3.1.6 Future promotional avenues
- 3.1.7 Industry-Institute collaboration.

3.2 From Technician students:

The following information can be obtained from technician students :

- 3.2.1 Clarity and coverage of detailed contents
- 3.2.2 Appropriateness of teaching learning methods
- 3.2.3 Development of competencies and difficulties faced during teaching-learning process

3.2.4 Competencies of teachers

3.2.5 Organisation of classroom instructions, laboratory and workshop/drawing sessions

3.2.6 Adequacy of physical facilities

3.2.7 Environment in the institute

3.2.8 Sports and cocurricular facilities

3.2.9 Motivation and incentives

3.2.10 Involvement of industry.

3.3 From Technicians :

Technicians will be helpful in providing information on the following :

3.3.1 Employability

3.3.2 Functions

3.3.3 Consistency of curriculum with the needs of industry

3.3.4 Wages and salaries

3.3.5 Job adaptability and mobility.

3.4 From Faculty :

Following information can be obtained from the faculty:

3.4.1 Curriculum document : Consistency with need, appropriateness with future technological developments, entry behaviour of students, clarity and feasibility of detailed contents in implementation

3.4.2 Integration of theory with practice

3.4.3 Involvement of industry

3.4.4 Training needs

3.4.5 Effectiveness of teaching learning methods

3.4.6 Provision and utilization of physical facilities and resources

3.4.7 Administrative support

3.4.8 Incentives

3.4.9 Flexibility and adaptability.

3.5 From Principals and Heads of Departments :

Principals/HODs can provide following information:

- 3.5.1 Staff recruitment and vacancies
- 3.5.2 Provision of physical facilities/ resources
- 3.5.3 Financial inputs
- 3.5.4 Purchase procedures
- 3.5.5 Faculty competencies and training needs
- 3.5.6 Training and placement of students
- 3.5.7 Involvement of industries
- 3.5.8 Environment.

3.6 From Directorate of Technical Education :

Following information can be collected from DTE :

- 3.6.1 Conduct of examinations and difficulty experienced
- 3.6.2 Staff recruitment, training and promotions
- 3.6.3 Results and records
- 3.6.4 Employability and collaboration with industries
- 3.6.5 Financial inputs.

3.7 From Community :(An option only) :

The Following information can be obtained from community :

- 3.7.1 Expenditure on education and training
- 3.7.2 Status, employability, wages and salaries
- 3.7.3 Job prospects.

4. TOOLS FOR CURRICULUM EVALUATION :

While many ways can be employed in collecting information, following tools are relatively in-expensive :

4.1 Questionnaires :

Questionnaire can be designed to receive written options from the target group mentioned in section 3.

4.2 Interviews and Observations:

In addition to collecting feed back through the questionnaire, it is essential to hold interviews, personal discussions and observations on the spot to validate the written responses received through questionnaire and to have clear understanding and experience regarding various aspects.

4.3 Records

Records maintained by institute/State Boards of Technical Education etc provide useful information. Records of examination, students placement in industry, employability and places of employment are essential tools which provide useful information

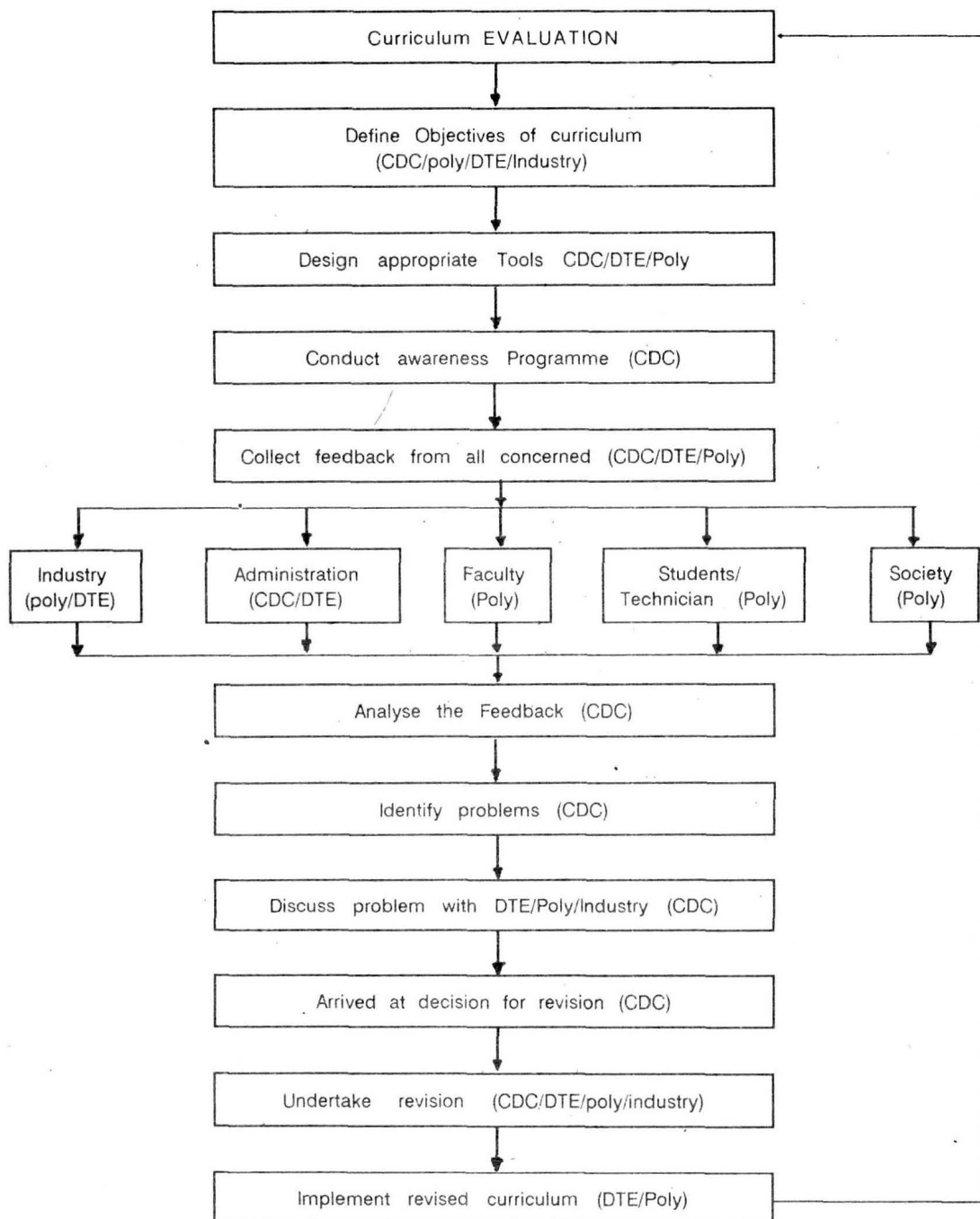
5. PROBLEMS IN CURRICULUM EVALUATION

Based on experience in the design and review of curricula, authors are of the following opinion :

- 5.1 technician curriculum are still not designed to provide clear specifications of the end product and teaching-learning strategies to achieve the same.
- 5.2 Staff at Directorate of Technical Education and senior faculty at polytechnics are not generally trained in the principles of curriculum development,
- 5.3 the persons from industry involved in the process of curriculum design and evaluation are normally not the same who provide feedback for curriculum improvement,
- 5.4 the users of curriculum (teachers and administrators) by and large are not aware of the collection and supply of feedback systems,
- 5.5 appropriate tools and infrastructural facilities for evaluation are not available,
- 5.6 coordination between institutes, directorate, industries and curriculum development cell is not yet established.

6. STRATEGY FOR CURRICULUM EVALUATION AND REVISION :

The strategy of Curriculum Evaluation and revision is diagrammatically represented in fig. 1:



Note :- Responsibilities are indicated in brackets.

Fig. 1. Strategy of curriculum evaluation and revision.

7 TENTATIVE TIME FRAME FOR CURRICULUM EVALUATION AND REVISION

7.1 Initial preparation time :

7.1.1	Design appropriate questionnaire for different target groups	1 week
7.1.2	Typing the questionnaire, tryout, modification and printing the questionnaire	3 weeks
7.1.3	Conduct of Awareness programme in curriculum evaluation	1 week
Total (A)		<u>5 weeks</u>

7.2 Evaluation Time :

7.2.1	Collection of feedback from students and technicians	2 weeks
7.2.2	Collection of feedback from teachers and administrators	3 weeks
7.2.3	Collection of feedback from employers and community	3 weeks
Total (B)		<u>8 weeks</u>

7.3 Analysis of feedback :

7.3.1	Students	1 week
7.3.2	Teachers and administrators	1 week
7.3.3	Employers and society	1 week
Total (C)		<u>3 weeks</u>

7.4 Decision Making :

7.4.1	Determination of problem areas	1 week
7.4.2	Appraisal including final decisions for curriculum revision	1 week
Total (D)		<u>2 weeks</u>

7.5 Curriculum Revision Through Workshops :

7.5.1	Conduct of workshop for curriculum revision for each course	2 weeks
7.5.2	Preparation of draft report	3 weeks
7.5.3	Preparation of final Report	3 weeks
Total (E)		<u>8 weeks</u>

Total time required

$$=A + B + C + D + E = 26 \text{ weeks}$$

8. CONCLUSIONS :

The purpose of curriculum evaluation and revision is to improve the process and programmes, evolve new approaches and improve the ability of administrators and teachers to plan and effect necessary changes. Curriculum evaluation will serve planning decisions, structuring decisions, implementing decisions and recycling decisions. This requires systematic planning and coordination at each level in the educational system, first to implement the designed curriculum as envisaged and secondly to determine the areas of weakness for finding appropriate solutions. Curriculum evaluation cannot be done by a single agency alone without the cooperation and support of all those who are interacting in the educational system. Curriculum evaluation requires indepth study of the whole system and finding out problem areas for bringing necessary improvements. This cannot be attempted just by making some changes (additions & alterations) in the course contents. A minimum of 26 weeks are required in the evaluation and revision of one curriculum.

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